DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

Centers for Disease Control
and Prevention (CDC)
Atlanta GA 30333

April 1, 2019

Daniel McGrath
American Oversight
1030 15th Street NW, Suite B255
Washington, District of Columbia 20005
Via email: foia@americanoversight.org

Dear Mr. McGrath:

This letter is regarding to your Centers for Disease Control and Prevention and Agency for Toxic Substances and Disease Registry (CDC/ATSDR) Freedom of Information Act (FOIA) attached request of September 20, 2018, assigned #18-01137-FOIA. You narrowed your request 4 times as follows:

- On September 24, 2018, you specified the names of the CDC persons' communications on which to focus the search;
- On September 25, 2018 you narrowed to "communications to email, Outlook calendars and Skype messaging".
- On October 2, 2018, you narrowed to exclude from your original request "1. All political appointees regardless of position in the relevant offices if not enumerated below (our initial requests include a definition of all political appointees);"
- On December 6, 2018 you narrowed to exclude any widely-distributed briefing sent to more than 20 people regardless of the frequency (daily, weekly, monthly, etc).

We located 276 pages of responsive records (272 pages released in full or part; 4 pages withheld in full). After a careful review of these pages, some information was withheld from release pursuant to 5 U.S.C. §552, Exemption (b)(5).

Exemption (b)(5) protects inter-agency or intra-agency memorandums or letters which would not be available by law to a party other than an agency in litigation with the agency. Exemption (b)(5) therefore incorporates the privileges that protect materials from discovery in litigation, including the deliberative process, attorney work-product, and attorney-client privileges. Information withheld under this exemption was protected under the deliberative process privilege. The deliberative process privilege protects the decision-making process of government agencies. The deliberative process privilege protects materials that are both predecisional and deliberative. The materials that have been withheld under the deliberative process privilege of Exemption 5 are both predecisional and deliberative, and do not contain or represent formal or informal agency policies or decisions. Examples of information withheld include draft responses to Congressional Questions for the Record (QFRs).

Documents (or portions of documents) belonging to the Department of Health and Human Services were found in our search (145 pages). In accordance with the Department's implementing regulations, CDC does not make decisions on the release or denial of other agencies' documents. We have referred your request and the above pages to the Department of Health and Human Services for their release determination and direct reply to you.

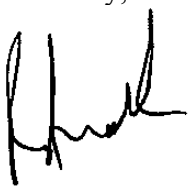
Please contact HHS directly with questions about these referred pages:

Freedom of Information Officer
Hubert H. Humphrey Building, Room 729H
200 Independence Avenue, SW
Washington, D.C. 20201
Email: FOIARequest@hhs.gov
Phone: 202-690-7453
Fax: 202-690-8320
FOIA Officer: Michael Marquis

You may contact our FOIA Public Liaison at 770-488-6277 for any further assistance and to discuss any aspect of your request. Additionally, you may contact the Office of Government Information Services (OGIS) at the National Archives and Records Administration to inquire about the FOIA mediation services they offer. The contact information for OGIS is as follows: Office of Government Information Services, National Archives and Records Administration, 8601 Adelphi Road-OGIS, College Park, Maryland 20740-6001, e-mail at ogis@nara.gov; telephone at 202-741-5770; toll free at 1-877-684-6448; or facsimile at 202-741-5769.

If you are not satisfied with the response to this request, you may administratively appeal by writing to the Deputy Agency Chief FOIA Officer, Office of the Assistant Secretary for Public Affairs, U.S. Department of Health and Human Services, Hubert H. Humphrey Building, 200 Independence Avenue, Suite 729H, Washington, D.C. 20201. Please mark both your appeal letter and envelope "FOIA Appeal." Your appeal must be postmarked or electronically transmitted by June 30, 2019.

Sincerely,



Roger Andoh
CDC/ATSDR FOIA Officer
Office of the Chief Operating Officer
(770) 488-6399
Fax: (404) 235-1852

Enclosures

18-01137-FOIA

From: Hoskins, Sharon (K.D.) (CDC/OD/OADC)
Sent: 13 Oct 2017 11:10:59 -0400
To: Fontenot, Monique (OS/ASPA);Lemar, Naweed (OS/ASPA)
Cc: Daniel, Katherine Lyon (CDC/OD/OADC);Guest, Megan (CDC/OD/OADC);Burden, Bernadette (CDC/OD/OADC)
Subject: CDC Hurricane Communications Update: 10/13/2017

Key Messages

- USVI is asking for three additional CDC staffers: one PIO and two outreach. All in St. Thomas with the approval to travel to a third island for same mission.
- CDC USVI outreach team is conducting outreach activities in the Frederiksted area and will participate in two health fairs this weekend
- CDC has compiled a social media bank for sharing with FEMA and USVI/DOH for their respective use.

Social Media

- Continued posting social media content on Leptospirosis, CO poisoning prevention, water safety/ boil water advisories, and flood water safety.
- Coordinated with Content team to post CDC social media content into various Facebook groups targeting people in certain Puerto Rico communities or relatives of Puerto Ricans living stateside.
- Sharing links to all posted content to CDC partners, HHS, and FEMA ESF 15 coordinator for cross sharing on content
- Coordinated with OPHPR and NCEH social media channel managers so that concurrent messaging shared on CDC Emergency channels and at a greater frequency. Additional messaging targeting Hurricane Maria affected areas shared on this channel as well.
- Drafted and cleared social media bank to support publication of digital tool kit targeted at Puerto Rico diaspora.
- Shared bank of social media comments and questions with JIC content and lead for awareness and potential response.
- Drafted social media content on various topics incl. mental health resources, hand hygiene when in contact with flood water

New Media

- Washington Post (CDC hurricane recovery efforts)

Sharon KD Hoskins, MPH
OADC/LNO Hurrican Response
CDC/News Media Branch
404.639.7232 I 404.285.3495 (BB)
www.cdc.gov/media

From: Guest, Megan (CDC/OD/OADC)
Sent: 16 Oct 2017 10:51:10 -0400
To: Fontenot, Monique (OS/ASPA);Lemar, Naweed (OS/ASPA)
Cc: Daniel, Katherine Lyon (CDC/OD/OADC);Burden, Bernadette (CDC/OD/OADC);Hoskins, Sharon (K.D.) (CDC/OD/OADC);Bonds, Michelle E. (CDC/OD/OADC)
Subject: CDC Hurricane Communications Update: 10/16/2017

Key Messages

- The CDC's USVI Health Communications Support Team is actively engaged supporting the DOH throughout the weekend, providing key messages in English and Spanish to 5 radio stations, including food and water safety, mosquito bite prevention, mental health help, CO poisoning prevention, safe cleanup.
- In Puerto Rico the Health Communications Support Team facilitated the clearance of 8 flyers by the PRDOH and the governor's office. They continue to assist in staffing leadership on field visits will leveraging key messages while handing out flyers. The team also met with the PR DOH communications director and assisted with development of a 3-week media coverage plan. They will assist with executing the plan.

Social Media

- Published social media content on Leptospirosis, CO poisoning prevention, water safety/ boil water advisories, and flood water safety during weekend of 10/14.
- Drafted, cleared, and coordinated translation of social media content on various topics incl. mental health resources, hand hygiene when in contact with flood water, and safe diapering in emergency/ shelter conditions.
- Coordinated with Content team to post CDC social media content into various Facebook groups targeting people in certain Puerto Rico communities or relatives of Puerto Ricans living stateside.
- Sharing links to all posted content to CDC partners, HHS, and FEMA ESF 15 coordinator for cross sharing on content
- Shared social media comments and questions with JIC content and lead for awareness and potential response.

News Media

- Nothing new for today

Sharon KD Hoskins, MPH
OADC/LNO Hurrican Response
CDC/News Media Branch
404.639.7232 I 404.285.3495 (BB)
www.cdc.gov/media

From: Guest, Megan (CDC/OD/OADC)
Sent: 17 Oct 2017 12:50:40 -0400
To: Fontenot, Monique (OS/ASPA);Lemar, Naweed (OS/ASPA)
Cc: Daniel, Katherine Lyon (CDC/OD/OADC);Burden, Bernadette (CDC/OD/OADC);Bonds, Michelle E. (CDC/OD/OADC);Hoskins, Sharon (K.D.) (CDC/OD/OADC)
Subject: CDC Hurricane Communications Update: 10/17/2017

Key Messages

- CDC JIC was able to get flyers successfully printed yesterday on the ground in USVI. Our staff in the Virgin Islands have been able to conduct outreach visits to communities and are creating fact sheets for shelters on body lice, mental health, and hand hygiene .
- In Puerto Rico, our staff continue to support the communications effort at PRDOH. Yesterday they coordinated three interviews for the Deputy Secretary for Environmental Health. She spoke on the departments vector control efforts, hand washing, chlorine tablets and drops, how to avoid leptospirosis, and proper disposal of spoiled food. The team is also working to put together fact sheets that can be sent home with children once schools re-open and continues to distribute flyers to teams going out into the field.
- Working on staffing three additional communications specialists for St. Thomas, USVI.

Social Media

- Publishing Spanish language social media content on various topics incl. CO poisoning prevention, water safety/ boil water advisories mental health resources, and hygiene when in contact with flood water.
- Coordinating with Content team to post CDC social media content into various Facebook groups targeting people in certain Puerto Rico communities or relatives of Puerto Ricans living stateside.
- Sharing links to all posted content to CDC partners, HHS, and FEMA ESF 15 coordinator for cross sharing on content

News Media

- None at this time

Megan Guest, MPH
Special Assistant to OADC Director
Office of the Associate Director for Communication
Centers for Disease Control and Prevention
404-639-3245 (desk)
404-543-8080 (cell)

From: Hoskins, Sharon (K.D.) (CDC/OD/OADC)
Sent: 19 Oct 2017 13:09:42 -0400
To: Fontenot, Monique (OS/ASPA);Lemar, Naweed (OS/ASPA)
Cc: Daniel, Katherine Lyon (CDC/OD/OADC);Guest, Megan (CDC/OD/OADC);Burden, Bernadette (CDC/OD/OADC)
Subject: CDC Hurricane Communications Update: 10/19/2017

Sorry for delay

Key Messages:

(From the field)

- Creating fact sheets to send home with school children (School starts October 23)
- Continues to work on: conjunctivitis, coping with disaster and protecting one's self and family after a hurricane, diarrhea, scabies, lice, and EPAP
- Visited both FEMA Disaster Recovery Centers (Frederiksted and Christiansted).
- Visited all (5) hardware stores on ST Thomas – eager to help with mold clean-up campaign.
- Began posting health and safety messaging on USVI DOH Facebook page

Social Media:

- Publishing Spanish language social media content on various topics incl. CO poisoning prevention, water safety/ boil water advisories, mudslides, and hygiene when in contact with flood water.
- Coordinating with Content team to post CDC social media content into various Facebook groups targeting people in certain Puerto Rico communities or relatives of Puerto Ricans living stateside.
- Working with Content team to develop an social media graphic to outline Leptospirosis prevention.
- Sharing links to all posted content to CDC partners, HHS, and FEMA ESF 15 coordinator for cross sharing of content.
- Linked with FEMA Puerto Rico social media profiles so that we can monitor the types of messaging being published to those channels.

News Media

- NPR (All Things Considered) Puerto Rico recovery

Sharon KD Hoskins, MPH
OADC/LNO Hurrican Response
CDC/News Media Branch
404.639.7232 I 404.285.3495 (BB)
www.cdc.gov/media

From: Hoskins, Sharon (K.D.) (CDC/OD/OADC)
Sent: 24 Oct 2017 09:26:03 -0400
To: Fontenot, Monique (OS/ASPA);Lemar, Naweed (OS/ASPA)
Cc: Daniel, Katherine Lyon (CDC/OD/OADC);Guest, Megan (CDC/OD/OADC);Burden, Bernadette (CDC/OD/OADC);Bonds, Michelle E. (CDC/OD/OADC)
Subject: CDC Hurricane Communications Update: 10/24/2017

Key Messages:

- HAN (Health Alert Network)
  - CDC Health Advisory: "Advice for Health Care Providers Treating Patients in or Recently Returned from Hurricane-Affected Areas, Including Puerto Rico and the US Virgin Islands"

Social Media:

- Publishing Spanish language social media content on various topics incl. CO poisoning prevention, water safety/ boil water advisories mental health resources, and hygiene when in contact with flood water.
- New content on leptospirosis is cleared and in process of being translated.
- Coordinating with Content team to post CDC social media content into various Facebook groups targeting people in certain Puerto Rico communities or relatives of Puerto Ricans living stateside.
- Coordinating development of social media graphic on making water safe from existing PDF fact sheet; will translate and share with HHS ASPR when posted to social media for amplification.
- Sharing links to all posted content to CDC partners, HHS, and FEMA ESF 15 coordinator for cross sharing on content.
- Based on feedback from Puerto Rico field staff, have linked with FEMA Puerto Rico social media profiles so that we can monitor the types of messaging being published to those channels.

News Media

- CNN (Michael Needleman) Leptospirosis in Puerto Rico

Sharon KD Hoskins, MPH
OADC/LNO Hurrican Response
CDC/News Media Branch
404.639.7232 | 404.285.3495 (BB)
www.cdc.gov/media

From: Hoskins, Sharon (K.D.) (CDC/OD/OADC)
Sent: 26 Sep 2017 10:33:04 -0400
To: Fontenot, Monique (OS/ASPA);Lemar, Naweed (OS/ASPA)
Cc: Daniel, Katherine Lyon (CDC/OD/OADC);Guest, Megan (CDC/OD/OADC);Burden, Bernadette (CDC/OD/OADC)
Subject: CDC Hurricane Communications Updates: 09/26/2017
Attachments: CDC Hurricane Key Messages 9.22.17.docx

Key Messages:

- Continuing to update key messages weekly (see attachment for latest version).
- Working to edit multi-media PSAs regarding mold clean-up and to communicate with home improvement stores for development of a shopping list and mold clean-up kit.
- Collaborating with DoD, HAM radio operators, and PR DOH to deliver multiple language key guidance in USVI via flyers and PSAs on DoD radio stations.

Social Media:

- Continue to post messaging to main CDC social media channels on general safety following a storm, including CO poisoning prevention, water safety/ boil water advisories, flood water safety, and extreme heat.
- Posted translated social media content to Spanish channels on topics listed above.
- Posted content to Spanish channels in hopes of reaching Puerto Rico & U.S. Virgin Islands audiences on flood safety, and CO poisoning prevention in the aftermath of Hurricane Maria.
- Shared links to all posted content to CDC partners & HHS for cross sharing on content
- Reached out to social media channels in Puerto Rico area to increase reach of our social media messaging.
- Coordinated with OPHPR social media channel managers so that concurrent messaging shared on CDC Emergency channels and at a greater frequency. Additional messaging targeting Hurricane Maria affected areas shared on this channel as well.
-

News Media:

- NPR, CDC recovery efforts in Puerto Rico
- Inside Climate News, Recovery efforts in pUerto Rico
- Modern Healthcare magazine; impact of Hurricanes Irma and Maria on Puerto Rico

2017 HURRICANE KEY MESSAGES

Event: 2017 Hurricane Season

Today's Date: September 22, 2017

This key messages document is for internal and external use. It contains the messaging that has been cleared for use in developing other materials related to this emergency response.

Newly updated information in this document is indicated in bold blue.

Key Messages

CONTENTS

The Centers for Disease Control and Prevention (CDC) and Agency for Toxic Substances and Disease Registry (ATSDR) are working with federal, state and local agencies as well as global health partners in response to Hurricanes Harvey, Irma, and Maria.

This document summarizes cleared key messages about Hurricanes Harvey, Irma, and Maria and the response by CDC and its partners. It will be updated as new information becomes available and will be distributed regularly. Please share this document with others as appropriate.

Newly updated information is indicated in bold blue with previously cleared messaging and response content shown in black.

BACKGROUND

The 2017 Hurricane season has resulted in widespread damage and unprecedented flooding. CDC's Emergency Operations Center (EOC) is bringing together CDC and ATSDR staff to work efficiently to support the local, state, and federal response to public health needs resulting from Hurricanes Harvey, Irma, and Maria.

CDC'S ACTIVITIES

During emergency events, such as Hurricane Harvey and Hurricane Irma, the states lead the response efforts and the federal government provides expert assistance when a formal request has been made by the affected state. CDC global health experts in areas such as water, sanitation, and hygiene also assist countries affected by disasters.

The states lead the domestic response efforts and members of the federal government provide assistance when a formal request has been made by the affected state. Internationally, countries lead their own response efforts and can request assistance from the United States government.

CDC's Emergency Operations Center (EOC) is activated to bring together CDC and ATSDR staff to work efficiently to support the local, state, federal and global response to public health needs in the aftermath of Hurricanes Harvey and Irma.

CDC and ATSDR have deployed staff to provide medical assistance and help coordinate additional response activities. CDC proactively shares potentially life-saving information regarding how to respond to floods and other situations that result after hurricanes. CDC releases this information to the general public through multiple channels. We will continue to support the federal response to both hurricanes.

- Staff in Washington are working in HHS Emergency Management Group as liaisons and subject matter experts on the Strategic National Stockpile (SNS).
- Staff with the HHS Incident Response Coordination Team (IRCT) are providing subject matter expertise on water quality and deployment of SNS assets.
- Federal Medical Station Strike Teams will lead the establishment of Federal Medical Stations to treat and care for evacuees.
- Commissioned Corps Officers deployed with Rapid Deployment Forces (RDFs) include clinical and non-clinical professionals to operate the FMSs.

- Additional Subject Matter Experts (SMEs) are preparing to deploy to advise/assist state and local officials in the response efforts as part of the large Federal team.
- CDC global health experts are coordinating with international partners to provide technical assistance to areas affected by Hurricanes Irma, Jose**, and Maria**.

AVOID DRIVING THROUGH FLOODED AREAS

Avoid driving through flooded areas and standing water. As little as six inches of water can cause you to lose control of your vehicle, and two feet of water can cause your car to be swept away. Turn around, don't drown.

During Hurricane Matthew in October 2016, the majority of deaths were due to drowning and most of those drowning deaths were related to driving through water.

STAY SAFE IN A FLOOD

- Emergency management officials have requested that people escaping flood waters as a last resort do not stay in the attic of their house. If the highest floor of your home becomes dangerous, get on the roof. Call 911 for help and stay on the line until the call is answered.
- Follow local flood watches, warnings and instructions.
- Flood water poses drowning risks for everyone, regardless of their ability to swim. Swiftly moving shallow water can be deadly, and even shallow standing water can be dangerous for small children.
- Vehicles do not provide adequate protection from flood waters. They can be swept away or may stall in moving water.
- If flooding occurs, get to higher ground. Get out of areas subject to flooding. This includes dips, low spots, canyons, washes, etc.
- If you are in an area that is in danger of flooding or you are under a flood watch or warning:
    - Gather the emergency supplies, including prescription medications, you previously stocked in your home and stay tuned to your local radio or television station for updates.
    - Turn off all utilities at the main power switch and close the main gas valve if evacuation appears necessary.
    - Have your immunization records handy or be aware of your last tetanus shot, in case you receive a puncture wound or a wound becomes infected during or after the flood.
    - Immunization records should be stored in a water proof container.
    - Fill bathtubs, sinks and containers with clean water. Sanitize the sinks and tubs first by using bleach. Rinse and fill with clean water.

PERSONAL HYGIENE AND HANDWASHING

Keeping hands clean during an emergency helps prevent the spread of germs. If your tap water is not safe to use, wash your hands with soap and water that has been boiled or disinfected. Follow these steps to make sure you wash your hands properly:

- Wet your hands with clean, running water (warm or cold) and apply soap.
- Rub your hands together to make a lather and scrub them well; be sure to scrub the backs of your hands, between your fingers, and under your nails.
- Continue rubbing your hands for at least 20 seconds. Need a timer? Hum the "Happy Birthday" song from beginning to end twice.
- Rinse your hands well under running water.
- Dry your hands using a clean towel or air dry them.

A temporary hand washing station can be created by using a large water jug that contains clean water (for example, boiled or disinfected).

Washing hands with soap and water is the best way to reduce the number of germs on them. If soap and water are not available, use an alcohol-based hand sanitizer that contains at least 60% alcohol. Alcohol-based hand sanitizers can quickly reduce the number of germs on hands in some situations, but sanitizers do not eliminate all types of germs.

Hand sanitizers are not effective when hands are visibly dirty.

Bathing or showering after a water-related emergency should only be done with clean, safe water. Sometimes water that is not safe to drink can be used for bathing, but be careful not to swallow any water **or get it in your eyes.**

If you have a drinking water well, listen to your local health authorities for advice on using your well water for showering and bathing. If extensive flooding has occurred or you suspect that your well may be contaminated, contact your local, state, or tribal health department for specific advice on well testing and disinfection.

DIARRHEAL DISEASES

Eating or drinking anything contaminated by flood water can cause diarrheal disease (such as *E. coli* or *Salmonella* infection). To protect yourself and your family:

- Practice good hygiene (handwashing with soap and water) after contact with flood waters.
- Do not allow children to play in flood water areas.
- Wash children's hands with soap and water frequently (always before meals).
- Do not allow children to play with toys that have been contaminated by flood water and have not been disinfected.
- For information on disinfecting certain nonporous toys, visit CDC Healthy Water's Cleaning and Sanitizing with Bleach section.

WOUND INFECTIONS

Open wounds and rashes exposed to flood waters can become infected. To protect yourself and your family:

- Avoid contact with flood waters if you have an open wound.
- Cover **clean,** open wounds with a waterproof bandage to reduce chance of infection.
- Keep open wounds as clean as possible by washing well with soap and clean water.
- If a wound develops redness, swelling, or oozing, seek immediate medical care.
- Vibrios are naturally occurring bacteria that live in certain coastal waters. They can cause a skin infection when an open wound is exposed to salt water or a mix of salt and fresh water, which can occur during floods.

The risk for injury during and after a hurricane and other natural disasters is high. Prompt first aid can help heal small wounds and prevent infection. Wash your hands with soap and water before and after providing first aid for a wound to help prevent infection. Use an alcohol-based hand sanitizer that contains at least 60% if soap and water are not available. Tetanus, other bacterial infections, and fungal infections are potential health threats for persons who have open wounds.

Seek medical attention as soon as possible if:

- There is a foreign object (soil, wood, metal, or other objects) embedded in the wound;
- The wound is at special risk of infection (such as a dog bite or a puncture by a dirty object);
- An old wound shows signs of becoming infected (increased pain and soreness, swelling, redness, draining, or you develop a fever).

How to Care for Minor Wounds

- Wash your hands thoroughly with soap and clean water if possible.
- Avoid touching the wound with your fingers while treating it (if possible, use disposable, latex gloves).
- Remove obstructive jewelry and clothing from the injured body part.
- Apply direct pressure to any bleeding wound to control bleeding.
- Clean the wound after bleeding has stopped.
    - Examine wounds for dirt and foreign objects.
    - Gently flood the wound with bottled water or clean running water (if available, saline solution is preferred).
    - Gently clean around the wound with soap and clean water.
    - Pat dry and apply an adhesive bandage or dry clean cloth.
- Leave unclean wounds, bites, and punctures open. Wounds that are not cleaned correctly can trap bacteria and result in infection.
- Provide pain relievers when possible.

Other Considerations

- Expect a variety of infection types from wounds exposed to standing water, sea life, and ocean water.
- Wounds in contact with soil and sand can become infected.
- Puncture wounds can carry bits of clothing and dirt into wounds and result in infection
- Crush injuries are more likely to become infected than wounds from cuts.
- Take steps to prevent tetanus

IMMUNIZATIONS

Guidance for tetanus-related questions in areas affected by hurricanes:

Protection against tetanus:

- Vaccination prevents tetanus, however this does not last a lifetime. This means that if you were vaccinated before or had tetanus before, you still need to get vaccinated regularly to keep a high level of protection against this serious disease. Being up to date with your tetanus vaccine is the best tool to prevent tetanus.
- Tetanus vaccines are recommended for people of all ages. After a series of tetanus shots during childhood and adolescence, adults need a tetanus booster shot (Td) every 10 years. Td or the tetanus booster shot that add protection against pertussis, or whooping cough, (Tdap) can be used; getting Tdap instead of Td for one tetanus booster during adulthood is recommended to maintain protection against whooping cough.
- Guidance on tetanus vaccination of responders and residents can be found on the following CDC websites.
    - https://www.cdc.gov/disasters/floods/workersafety.html
    - https://www.cdc.gov/disasters/disease/immunizationqa.html
    - https://www.cdc.gov/disasters/disease/tetanus.html
    - https://www.cdc.gov/vaccines/schedules/easy-to-read/index.html

If you have wounds, you should be evaluated for a tetanus immunization. If you receive a puncture wound or a wound contaminated with feces, soil, or saliva, have a health care professional determine whether a tetanus booster is necessary based on individual records.

Risk of tetanus after exposure to flood water:

- Exposure to flood waters does not increase the risk of tetanus. However, some people may have wounds such as puncture to the skin or nail sticks, cuts, bruises, lacerations, or scrapes (or other skin injuries) that become contaminated with flood waters, human or animal wastes, soil, dirt, or saliva. Besides treatment of these wounds, the vaccination status of such persons should be assessed and an age-appropriate tetanus vaccine given if needed. In some of these situations,

the doctor **or healthcare provider** may decide that a tetanus vaccine is needed as early as 5 years since the last dose.

- Being up to date for tetanus vaccine can greatly simplify the treatment for any wound that might occur.

Risk of tetanus to emergency responders, clean-up workers, volunteers

- During evacuation and flood cleanup, emergency responders, cleanup workers, or volunteers may be at increased risk for wounds (as named above). For this reason, such workers should be sure that they are up to date with tetanus vaccination, ideally before starting evacuation or cleanup activities.

- Being up to date for tetanus vaccine can greatly simplify the treatment for any wound that might occur.

Mass vaccination campaigns to prevent tetanus during flooding are not needed

- Tetanus immunization campaigns for evacuees from flooding disasters are not needed. However, each state and local health department can determine what is best for their evacuees after any given disaster, including in terms of vaccination efforts.

ANIMAL HAZARDS

Avoid Wild or Stray Animals

- Call local authorities to handle animals.
- Secure all food sources and remove any animal carcasses to avoid attracting rats.
- Get rid of dead animals, according to guidelines from your local animal control authority, as soon as you can. See Animal Disposal for answers to frequently asked questions.
- For more information, contact your local animal shelter or services, a veterinarian, or the Humane Society for advice on dealing with pets or stray or wild animals after an emergency.

Prevent Contact with Rodents

- Remove food sources, water, and items that can provide shelter for rodents.
- Wash dishes, pans, and cooking utensils immediately after use.
- Dispose of garbage and debris as soon as possible.

Prevent or Respond to a Snake Bite

- Be aware of snakes that may be swimming in the water to get to higher ground and those that may be hiding under debris or other objects.
- If you see a snake, back away from it slowly and do not touch it.
- If you or someone you know are bitten, try to see and remember the color and shape of the snake, which can help with treatment of the snake bite.

- Keep the bitten person still and calm. This can slow down the spread of venom if the snake is poisonous. Seek medical attention as soon as possible. Dial 911 or call local Emergency Medical Services. Poison Control Centers can also be a source of help and can be reached at 1-800-222-1222. Apply first aid if you cannot get the person to the hospital right away. Lay or sit the person down with the bite below the level of the heart.
    - Tell him/her to stay calm and still.
    - Cover the bite with a clean, dry dressing.

Plague:
There are reports that floodwaters bring a danger of plague. This is FALSE. Plague is rare in the United States. It is spread through fleas, not floodwater. CDC is not expecting to see an increased risk of plague from Hurricane Harvey. To learn more about plague, visit https://www.cdc.gov/plague/

MOSQUITOES

Mosquitoes and hurricanes

- Adult mosquitoes do not generally survive high winds during a hurricane.
- Immediately following a hurricane, flooding **may occur**. Mosquito eggs laid in the soil by floodwater mosquitoes during previous **rain or** floods hatch. This results in very large populations of floodwater mosquitoes. Most of these mosquitoes are considered nuisance mosquitoes.
- In general, nuisance mosquitoes do not spread viruses that make people sick. The types of mosquitoes that can spread viruses may increase 2 weeks to 2 months after a hurricane, especially in areas that did not flood but received more rainfall than usual.
- Because people spend more time outside cleaning up after a hurricane or flood, they are more likely to be bitten by nuisance mosquitoes.
- Large numbers of nuisance mosquitoes can affect recovery efforts. For this reason, local or state mosquito control experts will often take steps to control these mosquitoes.

Although flooding caused by hurricanes can be severe and an increase in mosquito populations is expected in the coming weeks, CDC does not expect to see an increase in the number of people getting sick from diseases spread by mosquitoes, but will work closely with state and local health officials to monitor the situation. We do not expect to see cases of Zika, dengue, West Nile, or other viruses spread by mosquitoes appear in affected areas because of the flooding.

Prevent mosquito bites

The best way to prevent diseases spread by mosquitoes is to protect yourself and your family from mosquito bites.

- Wear long-sleeved shirts and long pants.
- Stay in places with air conditioning and window and door screens to keep mosquitoes outside.
- Treat your clothing and gear with permethrin or buy pre-treated items (except in Puerto Rico, where permethrin is not effective).

Use Environmental Protection Agency (EPA)-registered insect repellents on exposed skin. Use a repellent with one of the following active ingredients: DEET, picaridin, IR3535, oil of lemon eucalyptus, para-menthane-diol, or 2-undecanone.

- See EPA's search tool here.
- Always follow the product label instructions.
- Reapply insect repellent as directed.
- Do not spray repellent on the skin under clothing.
- If you are also using sunscreen, apply sunscreen first and insect repellent second.

For babies and children:

- Dress your child in clothing that covers arms and legs.
- Cover crib, stroller, and baby carrier with mosquito netting.
- See insect repellent recommendations for children below.

For more information, please see Prevent Mosquito Bites.

Take steps to control mosquitoes inside and outside your home

- After a hurricane or flood, the health department or mosquito control district will often take steps to reduce the mosquito population.
- Residents can take steps to help control mosquitoes in and around their homes to prevent mosquito bites.

Controlling mosquitoes

Dengue

About dengue:

- Dengue is a disease caused by any one of four closely related dengue viruses (DENV 1, DENV 2, DENV 3, or DENV 4).
- The viruses are spread to people through the bite of an infected mosquito.
- It is estimated that there are over 100 million cases of dengue worldwide each year.

Dengue after Hurricanes Harvey and Irma:

- Before Hurricanes Harvey and Irma, there was no local spread of dengue spread by *Aedes* mosquitoes in Houston or Florida, or other areas affected by flooding.
- Although the flooding caused by Hurricanes Harvey and Irma is severe and we do expect to see an increase the mosquito population in the upcoming weeks, we do not expect to see cases of dengue appear in the area because of the flooding.

West Nile

About West Nile:

- West Nile is a virus most commonly spread to people by mosquito bites.
- In North America, cases of West Nile virus (WNV) occur during mosquito season, which starts in the summer and continues through fall.
- WNV cases have been reported in all of the continental United States.
- There are no vaccines to prevent or medications to treat WNV. Fortunately, most people infected with WNV do not have symptoms.
- About 1 in 5 people who are infected develop a fever and other symptoms.
- About 1 out of 150 infected people develop a serious, sometimes fatal, illness.
- Though pregnant women are not at higher risk for WNV infection, they should take steps to prevent mosquito bites.

West Nile after Hurricanes Harvey and Irma:

- Cases of West Nile virus have been reported in Texas and Florida this summer.
- Although the flooding caused by Hurricanes Harvey and Irma is severe and we do expect to see an increase the mosquito population in the upcoming weeks, West Nile virus cases are not expected to increase in the affected areas as a result of flooding.

More information about West Nile virus

West Nile virus Frequently Asked Questions

Zika

About Zika:

- Zika is a virus spread mostly by the bite of an infected *Aedes* species mosquito (*Ae. aegypti* and *Ae. albopictus*).
- It can also be passed through sex without a condom with an infected person, even if that person does not show symptoms.
- If a pregnant woman is infected with Zika virus, it can be passed to her fetus and potentially cause birth defects, including microcephaly and other severe fetal brain defects.
- Many people infected with Zika virus won't have symptoms or will only have mild symptoms. For those who do have symptoms, they are usually mild and last for several days to a week.

- Signs and symptoms of Zika virus infection include fever, rash, headache, joint pain, conjunctivitis (red eyes), and muscle pain.
- No specific treatment is available for Zika virus disease.
- The best way to prevent Zika and other viruses spread by mosquitoes is to prevent mosquito bites.
- Condoms can reduce the chance of getting Zika from sex.
    - Not having sex eliminates the risk of getting Zika from sex.

Zika after Hurricanes Harvey and Irma:

- Outbreaks have occurred throughout the Americas and local spread of the virus has been reported in the continental United States, including Texas and Florida.
- The types of mosquitoes that spread Zika live in many areas of the United States, including Texas and Florida.
- As of August 29, 2017, the Centers for Disease Control and Prevention (CDC), in collaboration with the Texas Department of State Health Services, has updated guidance for people who travel to or live in Brownsville, Texas, to lift the Zika cautionary (yellow) area designation.
- On June 2, 2017, the yellow area designation was removed for Miami-Dade County, Florida, after more than 45 days (3 mosquito incubation periods) passed with no additional confirmed local transmission cases and no suspected local transmission cases under investigation with enhanced surveillance in place.
- Although the level of risk of Zika virus transmission after a yellow area is removed is not known, it is likely to be low. However, sporadic cases may still occur.
- For this reason, CDC recommends that people living in or traveling to Miami-Dade County or Brownsville, Texas, continue to protect themselves from mosquito-borne illnesses, including Zika virus.
- In the months before Hurricanes Harvey and Irma, there was no local spread of Zika spread by *Aedes* mosquitoes in Houston or Florida, or other areas affected by flooding.
- Although the flooding caused by the hurricanes is severe and we do expect to see an increase the mosquito population in the upcoming weeks, we do not expect to see cases of Zika appear in affected areas because of the flooding.

More information about Zika virus

More information about Zika virus and pregnancy

More information about Zika virus prevention

CHEMICAL AND OIL EXPOSURES

- Use extreme caution when returning to your area after a flood. Be aware of potential chemical hazards you may encounter during flood recovery. Flood waters may have buried or moved hazardous chemical containers of solvents or other industrial chemicals from their normal storage places.

- If any propane tanks (whether 20-lb. tanks from a gas grill or household propane tanks) are discovered in a previously flooded area, do not attempt to move them yourself. These represent a very real danger of fire or explosion, and if any are found, police or fire departments or your State Fire Marshal's office should be contacted immediately.
- Car batteries, even those in flood water, may still contain an electrical charge and should be removed with extreme caution by using insulated gloves. Avoid coming in contact with any acid that may have spilled from a damaged car battery.
- Containers of dry chemicals that may have become wet due to flooding in your home or garage can be dangerous. When in doubt about how to safely handle these chemicals, contact your local fire department.
- Avoid Oil Spills
    - Crude oil is a mixture of chemicals that could be released into the environment during an emergency such as a hurricane and flood. In flood situations, some parts of the oil will float on water and can be seen as a film on the surface, and other parts will sink to the bottom. Other parts of the oil can become fumes in the air. People can come into contact with these chemicals by getting them on their skin or by breathing them in the air. If you notice oil in the water, stay away from it and contact local authorities or EPA at 1-800-424-8802. Emergency responders and workers should use appropriate clothing and personal protective equipment when working in these hazardous conditions.

- If you have come into contact with a chemical from a spill or accident and feel ill, seek medical attention immediately from a health care professional.
- Your regional poison center is available 24/7 by calling 1-800-222-1222 to help assist you in determining if you should seek medical attention following a potential chemical exposure or for information on chemicals.
- Check with your state and/or local health department and news sources to determine if there any known chemical spills in your area and up to date information on recommendations on how to protect yourself.
- CDC has general information available online regarding chemical emergencies here: (https://emergency.cdc.gov/chemical/overview.asp). Topics discussed include what a chemical emergency is, when to evacuate, when to shelter in place and how to clean yourself following a chemical exposure and handle contaminated clothing.

RETURNING HOME

Return to your flooded home only after local authorities have told you it is safe to do so.

CLEANING AND SANITIZING YOUR HOME

When returning to your home after a hurricane or flood, be aware that flood water may contain sewage and other hazards. Protect yourself and your family by following these steps:

INSIDE THE HOME

- Keep children and pets out of the affected area until cleanup has been completed.
- Wear personal protective equipment, including rubber boots, rubber gloves, and goggles during cleanup of affected area.
- **Buy NIOSH-approved N-95 respirators, or ones that provide even more protection, and wear one if cleaning up areas with mold damage.**
- Remove and discard items that cannot be washed and disinfected (such as, mattresses, carpeting, carpet padding, rugs, upholstered furniture, cosmetics, stuffed animals, baby toys, pillows, foam-rubber items, books, wall coverings, and most paper products).
- Remove and discard drywall and insulation that has been contaminated with sewage or flood waters.
    - This should include material that are located a foot higher than the high water line.
- Thoroughly clean all hard surfaces (such as flooring, concrete, molding, wood and metal furniture, countertops, appliances, sinks, and other plumbing fixtures) with hot water and laundry or dish detergent.
- Help the drying process by using fans, air conditioning units, and dehumidifiers.
- After completing the cleanup, wash your hands with soap and clean water.
- Wash all clothes worn during the cleanup in hot water and detergent. These clothes should be washed separately from uncontaminated clothes and linens.
- Wash clothes contaminated with flood or sewage water in hot water and detergent. It is recommended that a laundromat be used for washing large quantities of clothes and linens until your onsite waste-water system has been professionally inspected and serviced.
- Seek immediate medical attention if you become injured or ill.

Disinfect toys

Remember that anything that has had contact with floodwater could carry germs. To keep your kids safe, make sure their toys are clean. Some toys cannot be cleaned, particularly those that have been in floodwaters. When in doubt, throw toys out.

- Make a cleaning fluid by mixing 1 cup of bleach in 5 gallons of water and wash off toys carefully with your cleaner.
- If you have dishwasher-safe toys, they can be cleaned in a commercial dishwasher that has a dry cycle or a final rinse that exceeds 113°F for 20 minutes or 122°F for 5 minutes or 162°F for 1 minute.
- Once toys are cleaned, let them air dry.
- Stuffed animals or cloth toys that were wet with floodwater should be thrown out.

See also Reentering Your Flooded Home, Mold Cleanup and Remediation, and Cleaning and Sanitizing With Bleach after an Emergency.

MOLD

After natural disasters such as hurricanes, tornadoes, and floods, excess moisture and standing water contribute to the growth of mold in homes and other buildings. When returning to a home that has been flooded, be aware that mold may be present and may be a health risk for your family.

If there is mold growth in your home, you should clean up the mold and fix any water problem, such as leaks in roofs, walls, or plumbing. Controlling moisture in your home is the most critical factor for preventing mold growth. Keep children and pets out of the affected area until cleanup has been completed.

Detailed information about cleaning up mold is available in the Homeowner's and Renter's Guide to Mold Cleanup After Disasters.

People at Greatest Risk from Mold

- People with asthma, allergies, or other breathing conditions may be more sensitive to mold.
- **People with a weakened immune system, such as people receiving treatment for cancer, people who have had an organ or stem cell transplant, and people taking medicines that suppress the immune system, are more likely to get a serious illness from mold.**
- **If you have a breathing problem like asthma, a weakened immune system, or are pregnant, try not to enter a building with mold damage.**

Possible Health Effects of Mold Exposure

- People who are sensitive **or allergic** to mold may experience **problems like asthma attacks, wheezing,** stuffy nose, **and** irritated eyes **and skin**.
- **Mold exposure can lead to severe infections in people with a weakened immune system.**

- If you or your family members have health problems after exposure to mold, contact your doctor or other health care provider.

Recognizing Mold

You may recognize mold by:

- **Sight.** Are the walls and ceiling discolored, or do they show signs of mold growth or water damage?
- **Smell.** Do you smell a bad odor, such as a musty, earthy smell or a foul stench?

Safely Preventing Mold Growth

- Clean up and dry out the building as quickly as you can.
- Open doors and windows.
- Use fans to dry out the building. **Position fans to blow air out doors or windows.**
- See the fact sheet for drying out your house, Reentering Your Flooded Home.
- When in doubt, take it out! Remove all porous items that have been wet for more than 48 hours and that cannot be thoroughly cleaned and dried. These items can remain a source of mold growth and should be removed from the home. Porous, non-cleanable items include carpeting and carpet padding, upholstery, wallpaper, drywall, floor and ceiling tiles, insulation material, some clothing, leather, paper, wood, and food.
- Removal and cleaning are important because even dead mold may cause allergic reactions in some people.
- To prevent mold growth, clean wet items and surfaces with detergent and water.
- Homeowners may want to temporarily store items outside of the home until insurance claims can be filed. See recommendations by the Federal Emergency Management Agency (FEMA).

Cleaning Up Mold

To remove mold growth from hard surfaces use commercial products, soap and water, or a bleach solution of no more than 1 cup of household laundry bleach in 1 gallon of water. **Follow the manufacturers' instructions for use (see product label).** Use a stiff brush on rough surface materials such as concrete.

When removing mold:

- Never mix bleach with ammonia or other household cleaners. Mixing bleach with ammonia or other cleaning products will produce dangerous, toxic fumes.
- Open windows and doors to provide fresh air.
- **Wear rubber boots, rubber gloves, and goggles during cleanup of affected area.**

- If the area to be cleaned is more than 10 square feet, consult the U.S. Environmental Protection Agency (EPA) guide titled Mold Remediation in Schools and Commercial Buildings. Also available is A Brief Guide to Mold, Moisture, and Your Home.
- Always follow the manufacturer's instructions when using bleach or any other cleaning product.
- For more information on personal safety while cleaning up after a natural disaster, see Response Worker Health and Safety(https://www.cdc.gov/disasters/workers.html).

Protect your nose and mouth against breathing in mold:

Before you enter a building with mold damage, wear at least a NIOSH-approved N-95 respirator, which you can buy at a home supply store. If you plan to spend a lot of time removing moldy belongings or doing work like ripping out moldy drywall, wear a half-face or full-face respirator. Make certain that you follow instructions on the package for fitting the mask respirator tightly to your face. N-95 respirators are only approved for filtering out dust in the air (for example, from sweeping, sawing, and mold removal). This type of respirator will not protect you against chemicals or gases in the air, such as cleaning products or carbon monoxide.

OUTSIDE THE HOME

- Keep children and pets out of the affected area until cleanup has been completed.
- Have your onsite waste-water system professionally inspected and serviced if you suspect damage.
- Wash all clothes worn during the cleanup in hot water and detergent. These clothes should be washed separately from uncontaminated clothes and linens.
- After completing the cleanup, wash your hands with soap and clean water.
- Seek immediate medical attention if you become injured or ill. See wound care information.

SAFE SHELTERING

Follow safe hygiene and diapering recommendations when in a shelter.

In emergency situations, making sure that diaper changing practices remain hygienic is essential to reducing the spread of germs. Even a microscopic amount of fecal matter can contain millions of germs. CDC has developed guidelines and checklists to help parents, childcare providers, emergency responders, and others learn how to practice safe and germ-free diaper changing in emergency situations.

Emergency shelters should ensure accessibility for persons with disabilities, including people who use wheelchairs or scooters or who have difficulty walking, people who are deaf or hard-of-hearing, and people who are blind or have low vision.

Americans with Disabilities Act Checklist for Emergency Shelters

When planning for older adults, officials must ensure that shelter facilities meet the special needs of this population. For example, shelters must:

- Be accessible to people who need help or certain accommodations to perform routine care or activities of daily living (e.g., to use the bathroom, bathe, dress, groom, or get into and out of bed).
- Be accessible to people who have certain disabilities, such as those who use a wheelchair.
- Include signs and other forms of communication that can be understood by older adults.
- Include energy sources for electricity (i.e., generators), heating, and air conditioning.

AVOID CARBON MONOXIDE POISONING

Carbon monoxide (CO) is an odorless, colorless gas that can cause sudden illness and death if inhaled.

When power outages occur during emergencies such as hurricanes or winter storms, the use of alternative sources of fuel or electricity for heating, cooling, or cooking can cause CO to build up in a home, garage, or camper and to poison the people and animals inside.

Every year, more than 400 people die in the U. S. from accidental CO poisoning.

Exposure to CO can cause loss of consciousness and death. The most common symptoms of CO poisoning are headache, dizziness, weakness, nausea, vomiting, chest pain, and confusion. People who are sleeping or who have been drinking alcohol can die from CO poisoning before ever having symptoms.

Important CO Poisoning Prevention Tips

- Never use a generator, pressure washer, or any gasoline-powered engine inside your home, basement, or garage or less than 20 feet from any window, door, or vent.
- **When using a generator, use a battery-powered or battery backup CO detector in your home.**
- Never use a gas range or oven to heat a home.
- Never leave the motor running in a vehicle parked in an enclosed or partially enclosed space, such as a garage.
- Never run a generator, pressure washer, or any gasoline-powered engine inside a basement, garage, or other enclosed structure, even if the doors or windows are open, unless the equipment is professionally installed and vented. Keep vents and flues free of debris, especially if winds are high. Flying debris can block ventilation lines.

- Never use a charcoal grill, hibachi, lantern, or portable camping stove inside a home, tent, or camper.
- If conditions are too hot or too cold, seek shelter with friends or at a community shelter.
- If CO poisoning is suspected, move to outside air, call 911 or your local Poison Control Center at 1-800-222-1222 or consult a health care professional right away.

Businesses can help ensure your customers' safety by placing important information about protecting oneself from CO poisoning in the direct vicinity of generators they are selling.

POWER OUTAGES AND ELECTRICAL DANGERS

- NEVER touch a fallen power line. Call the power company to report fallen power lines.
- Do not drive through standing water if downed power lines are in the water.
- If you believe someone has been electrocuted, call or have someone else call 911 or emergency medical help.
- After a hurricane, flood or other natural disaster you need to be careful to avoid electrical hazards both in your home and elsewhere.
- Avoid contact with overhead power lines during cleanup and other activities.

If a power line falls across your car while you are driving, stay inside the vehicle and continue to drive away from the line.

- If the engine stalls, do not turn off the ignition.
- Warn people not to touch the car or the line.
- Call or ask someone to call the local utility company and emergency services.
- Do not allow anyone other than emergency personnel to approach your vehicle.

If electrical circuits and electrical equipment have gotten wet or are in or near water, turn off the power at the main breaker or fuse on the service panel.

- Do not enter standing water to access the main power switch.
- Call an electrician to turn it off.

Never turn power on or off yourself or use an electric tool or appliance while standing in water.

- Do not turn the power back on until electrical equipment has been inspected by a qualified electrician.
- All electrical equipment and appliances must be completely dry before returning them to service.
- Have a certified electrician check these items if there is any question.

If you see frayed wiring or sparks when you restore power, or if there is an odor of something burning but no visible fire, you should immediately shut off the electrical system at the main circuit breaker.

Consult your utility company about using electrical equipment, including power generators.

- Do not connect generators to your home's electrical circuits without the approved, automatic-interrupt devices.
- If a generator is on line when electrical service is restored, it can become a major fire hazard and it may endanger line workers helping to restore power in your area.

If you believe someone has had electric shock take the following steps:

- Look first. Don't touch. The person may still be in contact with the electrical source. Touching the person may pass the current through you.
- Call or have someone else call 911 or emergency medical help.
- Turn off the source of electricity if possible. If not, move the source away from you and the affected person using a non-conducting object made of cardboard, plastic or wood.
- Once the person is free of the source of electricity, check the person's breathing and pulse. If either has stopped or seems dangerously slow or shallow, begin cardiopulmonary resuscitation (CPR) immediately.
- If the person is faint or pale or shows other signs of shock, lay him or her down with the head slightly lower than the trunk of the body and the legs elevated.
- Don't touch burns, break blisters, or remove burned clothing. Electrical shock may cause burns inside the body, so be sure the person is taken to a doctor.

IMPACT OF POWER OUTAGE ON VACCINE STORAGE

In areas where vaccine supplies are affected by temporary power outages, the guidance developed for providers during the 2003 Northeast Power Outage may be helpful:

- Do not open freezers and refrigerators until power is restored.
- Most refrigerated vaccines are relatively stable at room temperature for limited periods of time. The vaccines of most concern are MMR and Varivax, which are sensitive to elevated temperatures.
- Monitor temperatures; don't discard vaccines that are in refrigerators or freezers affected by temporary power outages; don't administer affected vaccines until you have discussed with public health authorities.

If the power outage is on-going:

- Keep all refrigerators and freezers closed. This will help to conserve the cold mass of the vaccines.

- Continue to monitor temperatures if possible. Do not open units to check temperatures during the power outage. Instead, record the temperature as soon as possible after the power is restored, and the duration of the outage. This will provide data on the maximum temperature and maximum duration of exposures to elevated temperatures.
- If alternative storage with reliable power sources are available (i.e., hospital with generator power), transfer to that facility can be considered. If transporting vaccine, measure the temperature of the refrigerator(s) and freezer(s) when the vaccines are removed. If possible transport the vaccine following proper cold chain procedures for storage and handling or try to record the temperature the vaccine is exposed to during transport.

When power has been restored:

1. Record the temperature in the unit as soon as possible after power has been restored. Continue to monitor the temperatures until they reach the normal 2–8 degrees Celsius range in the refrigerator, or -15 degrees C or less in the freezer. Be sure to record the duration of increased temperature exposure and the maximum temperature observed.
2. If you receive vaccine from your state or local health department, they may be contacting you with guidance on collecting information on vaccine exposed to extreme temperatures.
3. If you are concerned about the exposure or efficacy of any of your vaccine stock, do not administer the vaccine until you have consulted your state or local health department.
4. Keep exposed vaccine separated from any new product you receive and continue to store at the proper temperature if possible.
5. Do not discard any vaccine that might have been exposed to increased or fluctuating temperatures. We will be working with the vaccine manufacturers to determine which vaccines may be viable.

For additional information about vaccine storage during a power outage, see the guidance provided by the CDC National Immunization Program or contact your state or local health department.

STAY SAFE IN EXTREME HEAT

Be aware of yours and others' risk for heat stroke, heat exhaustion, heat cramps and fainting. To avoid heat stress, you should follow CDC's heat safety tips. Stay Cool, Stay Hydrated, and Stay Informed.

Some people are more at risk of developing a heat-related illness than others. Be sure to check on people in these groups and follow tips to keep them safe.

Older Adults (Aged 65+)

People with Chronic Medical Conditions

Outdoor Workers

Infants & Children

Low Income Households or households without air conditioning

Athletes

Pets are also at risk.

Heat stroke is the most serious heat illness. It happens when the body can't control its own temperature and its temperature rises rapidly. Sweating fails and the body cannot cool down. Body temperature may rise to 106°F or higher within 10 to 15 minutes. Heat stroke can cause death or permanent disability if emergency care is not given. Visit Warning Signs and Symptoms of Heat-Related Illness for more information on how to recognize symptoms and what to do if someone develops a heat-related illness.

For more information on heat-related illnesses and treatment, see the CDC Extreme Heat Web site. Information for workers can be found on the NIOSH heat stress web page.

DRINK CLEAN, SAFE WATER AND EAT SAFE FOOD

PREPARING FOR FOOD AND WATER NEEDS

Follow these steps to make sure you and your family have enough safe food and water (for drinking, cooking, bathing, etc.) available in the event of a disaster or emergency.

Prepare an Emergency Food Supply

A disaster can easily disrupt the food supply at any time, so plan to have at least a 3-day supply of food on hand. Keep foods that:

- Have a long storage life
- Require little or no cooking, water, or refrigeration, in case utilities are disrupted
- Meet the needs of babies or other family members who are on special diets
- Meet pets' needs
- Are not very salty or spicy, as these foods increase the need for drinking water, which may be in short supply

How to Store Emergency Food

When storing food, it is not necessary to buy dehydrated or other types of emergency food.

- Check the expiration dates on canned foods and dry mixes. Home-canned food usually needs to be thrown out after a year.
- Use and replace food before its expiration date.

Certain storage conditions can enhance the shelf life of canned or dried foods. The ideal location is a cool, dry, dark place. The best temperature is 40° to 70°F.

- Store foods away from ranges or refrigerator exhausts. Heat causes many foods to spoil more quickly.
- Store food away from petroleum products, such as gasoline, oil, paints, and solvents. Some food products absorb their smell.
- Protect food from rodents and insects. Items stored in boxes or in paper cartons will keep longer if they are heavily wrapped or stored in waterproof, airtight containers.

Preparing Food

Preparing food after a disaster or emergency may be difficult due to damage to your home and loss of electricity, gas, and water. Having the following items available will help you to prepare meals safely:

- Cooking utensils
- Knives, forks, and spoons
- Paper plates, cups, and towels
- A manual can- and bottle-opener
- Heavy-duty aluminum foil
- Propane gas or charcoal grill; camp stove
- Fuel for cooking, such as charcoal. (CAUTION: Only use charcoal grills or camp stoves outside of your home to avoid smoke inhalation and carbon monoxide poisoning.)

Prepare an Emergency Water Supply

- Store at least 1 gallon of water per day for each person and each pet. Consider storing more water than this for hot climates, for pregnant women, and for people who are sick.
- Store at least a 3-day supply of water for each person and each pet. Try to store a 2-week supply if possible.
- Observe the expiration date for store-bought water; replace other stored water every 6 months.
- Store a bottle of unscented liquid household chlorine bleach to disinfect your water and to use for general cleaning and sanitizing. Try to store bleach in an area where the average temperature stays around 70°F (21°C). Because the amount of active chlorine in bleach decreases over time due to normal decay, consider replacing the bottle each year.

Water Containers (Cleaning and Storage)

Unopened commercially bottled water is the safest and most reliable emergency water supply.

Use of food-grade water storage containers, such as those found at surplus or camping supply stores, is recommended if you prepare stored water yourself.

1. Before filling with safe water, use these steps to clean and sanitize storage containers:
2. Wash the storage container with dishwashing soap and water and rinse completely with clean water.
3. Sanitize the container by adding a solution made by mixing 1 teaspoon of unscented liquid household chlorine bleach in one quart of water.
4. Cover the container and shake it well so that the sanitizing bleach solution touches all inside surfaces of the container.
5. Wait at least 30 seconds and then pour the sanitizing solution out of the container.
6. Let the empty sanitized container air-dry before use OR rinse the empty container with clean, safe water that already is available.

Avoid using the following containers to store safe water:

- Containers that cannot be sealed tightly
- Containers that can break, such as glass bottles
- Containers that have ever held toxic solid or liquid chemicals, such as bleach or pesticides
- Plastic or cardboard bottles, jugs, and containers used for milk or fruit juices

For proper water storage:

- Label container as "drinking water" and include storage date.
- Replace stored water that is not commercially bottled every six months.
- Keep stored water in a place with a fairly constant cool temperature.
- Do not store water containers in direct sunlight.
- Do not store water containers in areas where toxic substances such as gasoline or pesticides are present.

AFTER THE STORM

Food may not be safe to eat during and after an emergency. Safe water for drinking, cooking, and personal hygiene includes bottled, boiled, or treated water. Your state, local, or tribal health department can make specific recommendations for boiling or treating water in your area.

Food: Throw away food that may have come in contact with flood or storm water, perishable foods, and those with an unusual odor, color, or texture. When in doubt, throw it out.

Water: Do not use water you suspect or have been told is contaminated to wash dishes, brush your teeth, wash and prepare food, wash your hands, make ice, or make baby formula.

FOOD

Foodborne illness, or food poisoning, is a risk from food contaminated from flood water and from perishable food not held at a safe temperature due to power outages. If foods of animal origin, especially raw meat and poultry, have not been held at a safe temperature, germs already present can grow to high numbers. Other foods not held at the right temperature can also spoil.

Do the following with food and containers that may have had contact with flood or storm water.

Throw away the following foods:

- Food that has an unusual odor, color, or texture. When in doubt, throw it out.
- Perishable foods (including meat, poultry, fish, eggs and leftovers) in your refrigerator when the power has been off for 4 hours or more.
- Canned foods or food containers that are bulging, opened, or damaged. Throw away the food if the container spurts liquid or foam when you open it or the food inside is discolored, moldy, or smells bad.
- Food not in packages or cans.
- Packaged food: Throw away food containers with screw-caps, snap-lids, crimped caps, twist caps, flip tops, and snap-open tops, as well as home-canned foods because they cannot be disinfected. Throw away food in cardboard containers, including juice/milk/baby formula boxes.

Thawed food that contains ice crystals can be refrozen or cooked. Freezers, if left unopened and full during a power outage, will keep food safe for 48 hours (24 hours if half full).

How to reuse commercially prepared cans and retort pouches (like flexible, shelf-stable juice and seafood packages):

- Remove labels if they are removable.
- Brush or wipe away dirt or silt.
- Wash cans and pouches with soap and water, using hot water if available.
- Rinse cans and pouches with water that is safe for drinking, if available.
- Sanitize cans and pouches in one of two ways. 1.) Place them in a solution of 1 cup (8 ounces/250 milliliters) of bleach in 5 gallons of water for 15 minutes. OR 2.) Submerge in a pot of water, bring to a boil, and continue boiling for 2 minutes.
- Re-label cans or pouches with a marker. Include the expiration date.
- Use food in reconditioned cans or pouches as soon as possible.

Store Food Safely

- While the power is out, keep the refrigerator and freezer doors closed as much as possible.

Feeding infants and young children

- Breastfed infants should continue breastfeeding. For formula-fed infants, use ready-to-feed formula if possible. If using ready-to-feed formula is not possible, it is best to use bottled water to prepare powdered or concentrated formula when your tap water is unsafe. If bottled water is not available, check with local authorities to find the status of your drinking water to see if **boiling it** will make it safe to drink. Use treated water to prepare formula only if you do not have bottled or boiled water.
- If water is contaminated with a chemical, boiling it will not remove the chemical or make it safe to consume.
- If you prepare formula with boiled water, let the formula cool sufficiently before giving it to an infant. Put a couple drops of formula on the back of your hand to see if it is too hot.
- Clean feeding bottles with bottled, boiled, or treated water before each use. Throw out bottle nipples or pacifiers that have been in contact with flood waters.
- Wash your hands before preparing formula and before feeding an infant. You can use alcohol-based hand sanitizer for sanitizing your hands if water is not available for handwashing.

Clean and sanitize food-contact surfaces

Throw out wooden cutting boards, baby bottle nipples, and pacifiers if they have come into contact with flood waters because they cannot be properly sanitized. Clean and sanitize food-contact surfaces in a four-step process:

1. Wash with soap and warm, clean water.
2. Rinse with clean water.
3. Sanitize by immersing for 1 minute in a solution of 1 cup (8 ounces or 250 milliliters) of chlorine bleach (5.25%, unscented) in 5 gallons of clean water.
4. Allow to air dry.

Note: Do not use your fireplace for cooking until the chimney has been inspected for cracks and damage. Sparks may escape into your attic through an undetected crack and start a fire.

WATER

Safe Drinking Water

- After an emergency, especially after flooding, drinking water may not be available or safe to drink for personal use.
- Do not use water you suspect or have been told is contaminated to wash dishes, brush your teeth, wash and prepare food, make ice, or make baby formula.
- Alcohol dehydrates the body, which increases the need for drinking water.
- Floods and other disasters can damage drinking water wells and lead to aquifer and well contamination. Flood waters can contaminate well water with livestock waste, human sewage, chemicals, and other contaminants which can lead to illness when used for drinking, bathing, and other hygiene activities.

Make Water Safe

Water often can be made safe to drink by boiling, adding disinfectants, or filtering.

IMPORTANT: Water contaminated with fuel or toxic chemicals will not be made safe by boiling or disinfection. Use a different source of water if you know or suspect that water might be contaminated with fuel or toxic chemicals.

Boil Water:

If you don't have safe bottled water, you should **boil water** to make it safe. Boiling is the surest method to make water safer to drink by killing disease-causing organisms, including viruses, bacteria, and parasites.

You can improve the flat taste of boiled water by pouring it from one clean, disinfected container to another and then allowing it to stand for a few hours, OR by adding a pinch of salt for each quart or liter of boiled water.

If the water is cloudy:

- Filter it through a clean cloth, paper towel, or coffee filter OR allow it to settle.
- Draw off the clear water.
- Bring the clear water to a rolling boil for one minute (at elevations above 6,500 feet, boil for three minutes).
- Let the boiled water cool.
- Store the boiled water in clean sanitized containers with tight covers.

If the water is clear:

- Bring the clear water to a rolling boil for one minute (at elevations above 6,500 feet, boil for three minutes).
- Let the boiled water cool.
- Store the boiled water in clean sanitized containers with tight covers.

Disinfectants:

If you don't have clean, safe, bottled water and if boiling is not possible, you often can make water safer to drink by using a disinfectant, such as unscented household chlorine bleach, iodine, or chlorine dioxide tablets. These can kill most harmful organisms, such as viruses and bacteria. However, only chlorine dioxide tablets are effective in controlling more resistant organisms, such as the parasite Cryptosporidium. If the water is contaminated with a chemical, adding a disinfectant will not make it drinkable.

To disinfect water:

Bleach comes in different concentrations. Make sure you know the concentration of bleach you are using before using to disinfect drinking water. It should be on the label.

- Clean and disinfect water containers properly before each use. Use containers that are approved for water storage. Do not use containers previously used to store chemicals or other hazardous materials.
- Filter water through a clean cloth, paper towel, or coffee filter OR allow it to settle, then draw off the clear water.

When using 5-6% unscented liquid household chlorine bleach:

- Add a little less than 1/8 teaspoon (8 drops or about 0.5 milliliters) for each gallon of clear water (or 2 drops of bleach for each liter or each quart of clear water).
- If you do not have clear water or are not able to filter the water to make it clear, add a little less than ¼ teaspoon (16 drops, or about 1 milliliter) of bleach for each gallon of cloudy water (or 4 drops of bleach for each liter or each quart of cloudy water). Stir the mixture well.
- Let it stand for at least 30 minutes before using.
- Store the disinfected water in clean, disinfected containers with tight covers.

When using 8.25% unscented liquid household chlorine bleach:

- Add a little less than 1/8 teaspoon (6 drops or about 0.5 milliliters) of unscented liquid household chlorine (8.25%) bleach for each gallon of clear water (or 2 drops of bleach for each liter or each quart of clear water).
- If you do not have clear water or are not able to filter the water to make it clear, add 12 drops (about 1 milliliter) of bleach for each gallon of cloudy water (or 3 drops of bleach for each liter or each quart of cloudy water).

Filters:

Many portable water filters can remove disease-causing parasites such as *Cryptosporidium* and *Giardia* from drinking water.

- If you are choosing a portable water filter, try to pick one that has a filter pore size small enough to remove both bacteria and parasites. Most portable water filters do not remove bacteria or viruses.
- Carefully read and follow the manufacturer's instructions for the water filter. After filtering, add a disinfectant such as iodine, chlorine, or chlorine dioxide to the filtered water to kill any viruses and remaining bacteria.

Water Treatment Resources:

To learn more about water filters and treatments that can remove microorganisms such as viruses, bacteria, and parasites (such as Cryptosporidium), see the following resources:

- Making Water Safe in an Emergency
- A Guide to Water Filters
- A Guide to Drinking Water Treatment and Sanitation for Backcountry and Travel Use covers information on the effectiveness of various water treatment methods.
- A Guide to Commercially-Bottled Water and Other Beverages
- Emergency Disinfection of Drinking Water

Finding Emergency Water Sources

Alternative sources of clean water can be found inside and outside the home. DO NOT DRINK water that has an unusual odor or color, or that you know or suspect might be contaminated with fuel or toxic chemicals; use a different source of water.

The following are possible sources of water:

- Water from your home's water heater tank (part of your drinking water system, not your home heating system)
- Melted ice cubes made with water that was not contaminated
- Water from your home's toilet tank (not from the bowl), if it is clear and has not been chemically treated with toilet cleaners such as those that change the color of the water
- Liquid from canned fruit and vegetables
- Water from swimming pools and spas can be used for personal hygiene, cleaning, and related uses, but not for drinking.

Listen to reports from local officials for advice on water precautions in your home. It may be necessary to shut off the main water valve to your home to prevent contaminants from entering your piping system.

Outside the Home:

Water from sources outside the home must be treated as described in **Make Water Safe**. These include:

- Rainwater
- Streams, rivers, and other moving bodies of water
- Ponds and lakes
- Natural springs

Unsafe Water Sources

Never use water from the following sources:

- Radiators
- Hot water boilers (part of your home heating system)

- Water beds (fungicides added to the water and/or chemicals in the vinyl may make water unsafe for use)

Private Drinking Water Wells

Floods and other disasters can damage or contaminate wells. Dug wells, bored wells, and other wells less than 50 feet deep are more likely to be contaminated, even if damage is not apparent.

- After a disaster, it is safest to drink bottled water until you are certain that your water is free of contaminants and safe to drink.
- If extensive flooding has occurred or you suspect that the well may be contaminated, DO NOT drink the water. Use a safe water supply like bottled or treated water.
- Contact your local, state, or tribal health department for specific advice on wells and testing.

IMPORTANT: Fuel and other chemical releases and spills are common during floods.

- Water contaminated with fuel or toxic chemicals will **not** be made safe by boiling or disinfection. Until you know the water is safe, use bottled water or some other safe supply of water.
- If you suspect your water has fuel or chemical contamination, contact your local health department for specific advice.

For more information: Emergency Treatment for Wells

PROTECT YOURSELF FROM AIR POLLUTION

CDC defers to state health authorities and EPA regarding air pollution in Texas following Hurricane Harvey and in Florida, South Carolina, and Georgia following Hurricane Irma. We have not been involved in air sampling and therefore cannot address specific risks.

After a major storm, burning of debris, chemical releases, and other incidents can lead to poor air quality. Individuals with asthma, COPD, or heart disease and infants and children are most at risk from exposure to air pollution, but everyone can experience effects like eye, lung or throat irritation.

When news reports the EPA Air Quality Index, or other public announcements warn you that levels are high:

- Reduce the amount of time you spend outside and spend more time indoors, where pollution levels are usually lower.
- If you are cleaning up after storm damage try to do indoor work when outdoor air pollution is bad and do outdoor work when pollution levels are lower, usually in the morning and evening.
- Choose easier outdoor activities (like walking instead of running) so you don't breathe as hard.
- Avoid busy roads and highways where air pollution is usually worse because of emissions from cars and trucks.

Odor:

An odor is caused by a substance in the air that you can smell. Odors, or smells, can be either pleasant or unpleasant. In general, most substances that cause odors in the outdoor air are not at levels that can cause serious injury, long-term health effects, or death. However, odors may affect your quality of life and sense of well-being.

Not everyone reacts to environmental odors the same way. In general, if you are young or female, you may be more sensitive to odors. If you don't smoke, you are usually more sensitive to odors than smokers. If you suffer from depression and anxiety disorders, or have migraines, allergies, asthma, and other chronic lung conditions, you may feel worse when you smell unpleasant odors over a long time.

You may have signs and symptoms when exposed to environmental odors, but the symptoms usually go away when the odor is gone. The most common symptoms from environmental odors are headache and nausea.

You can reduce your exposure to odors by

- Exercising indoors during days with more environmental odors
- Staying indoors when your allergies, asthma, and/or chronic lung problems are acting up
- Leaving the area for a few hours if possible

For more information about environmental odors, please contact the Agency for Toxic Substances and Disease Registry (ATSDR) at 1-800-CDC-INFO (236-4636) or visit the environmental odors website: www.atsdr.cdc.gov/odors

COPING WITH DISASTER

SAMHSA's Disaster Distress Hotline: 1-800-985-5990 (TTY for deaf/hearing impaired: 1-800-846-8517) or text TalkWithUs to 66746

It is natural to feel stress, anxiety, grief, and worry during and after a disaster. Everyone will react differently and your own feelings will change throughout the emergency response. Notice and accept how you feel. Taking care of your emotional health during an emergency will help you think clearly and react to the urgent needs to protect yourself and your family during an emergency. Self-care during an emergency will help your long-term healing.

Look out for these common signs of distress:

- Feelings of shock, numbness, and disbelief
- Changes in energy and activity levels
- Difficulty concentrating
- Changes in appetite

- Sleeping problems
- Nightmares and upsetting thoughts and images
- Feeling anxious or fearful
- Physical reactions, such as headaches, body pains, stomach problems, and skin rashes
- Chronic health problems can get worse
- Changes in use of alcohol, tobacco, or other drugs
- Anger or short-temper

If you experience these feelings or behaviors for several days in a row and are unable to carry out normal responsibilities because of them, seek professional help.

Take the following steps to cope with a disaster:

- Stay informed-When you feel that you are missing information, you may become more stressed or anxious. Watch the news for updates from officials. Be aware that there may be rumors during a crisis. Turn to reliable sources of information
- Take care of your body- Eat healthy well-balanced meals, exercise regularly, get plenty of sleep, and avoid drugs and alcohol. Learn more about wellness strategies for mental health.
- Take breaks- Make time to unwind and remind yourself that strong feelings will fade. Take breaks from listening to news stories. It can be upsetting to hear about the crisis and see images repeatedly. Try to do some other activities you enjoy to return to your normal life and check for updates between breaks.
- Connect with others- Share your concerns and how you are feeling with a friend or family member. Maintain healthy relationships and build a strong support system.
- **Seek help when needed-** If distress is impacting activities of your daily life for several days or weeks, talk to a clergy member, counselor, or doctor or contact the **SAMHSA helpline**.
    - Call 1-800-985-5990 ; TTY for deaf/hearing impaired: 1-800-846-8517
    - Text TalkWithUs to 66746.

Helping Children Cope

Children and youth may also have a difficult time during or after an emergency. Some young people react right away, while others may show signs of difficulty much later. Take time to talk to your children about the disaster, limit their exposure to media coverage of the event, including social media, and as soon as possible, return to and maintain a healthy routine.

SAMHSA guide for parents, caregivers, and teachers

Children may not say how they are feeling during a crisis. Explain the situation, answer questions, and reassure them they are loved.

Children are less likely to say that they are feeling stressed but will show signs through their behaviors. Infants and young children may cry more than usual, want to be held more, and become fearful about being separated from their parent/caregiver. Adolescents and teenagers may deny that they are upset or may do more risky things.

The following are some ways to help children cope:

- Set a good example. Take care of yourself, including exercising and practicing healthy eating habits.
- Encourage children to ask questions. Get down at eye level and speak in a calm, gentle voice using words they can understand.
- Maintain a strong connection and show them they are loved.
- Listen for any rumors children might hear at school or on social media and help explain the correct information to them.
- Tell children it is normal to be upset. Let them know that it's not their fault.

VULNERABLE GROUPS

PREGNANT WOMEN

After a hurricane many people are affected, here are some tips on how to protect yourself and your baby.

If you do get sick, talk with a healthcare provider right away.

- **Explain that you are** pregnant or think you might be pregnant.
- Some infections might harm your growing baby. The sooner you get the care you need, the better.
- While you are sick, drink plenty of clean water and follow the doctor **or healthcare provider's** orders.
- Drinking lots of clean water and resting is very important for all pregnant women, especially when they are sick.

Before you start taking any medicines, even ones that you can buy at the store, talk with a healthcare provider.

- Make sure to tell the doctor or nurse that you are pregnant or might be pregnant.
- Some medicines are not good for women to take when they are pregnant, but others are okay.
- If you are already taking a medicine, talk to your doctor **or healthcare provider** before stopping the medicine.

- **Using generators, kerosene heaters, grills, or camp stoves indoors can lead to carbon monoxide poisoning. Never use a generator, pressure washer, or any gasoline-powered engine inside your home, basement, or garage or less than 20 feet from any window, door, or vent.**
- **When using a generator, use a battery-powered or battery backup CO detector in your home.**

- Carbon monoxide is a gas with no color or smell. It is a poison to you and your baby. If you breathe it, it can make you very sick. It can even kill you. Carbon monoxide is a poison for anyone, whether pregnant or not.
- If you've breathed carbon monoxide, you might feel like throwing up or feel very tired.
- If you are having problems and think you were exposed to carbon monoxide, you should tell a doctor or nurse.

If possible, do not touch or walk in flood water.

- If you do touch the water, make sure to use soap and clean water to wash the parts of your body that came in contact with the water.
- Do not swallow any of the flood water and be careful to keep it away from your mouth.
- If you feel sick in any way, talk to a doctor or nurse right away.
- Remember to **explain** that you are pregnant or think you might be pregnant.

If you are pregnant, you should follow steps to prevent mosquito bites to reduce your risk for illnesses spread by mosquitoes.

- Wear long-sleeved shirts and long pants.
- Stay and sleep in places with air conditioning or that use window and door screens.
- Use EPA-registered insect repellents with one of the following active ingredients:
- DEET, picaridin, IR3535, oil of lemon eucalyptus, para-menthane-diol, or 2-undecanone
- Once a week, empty and scrub, turn over, cover, or throw out items that hold water, such as trash containers, tires, buckets, toys, planters, flowerpots, birdbaths or pools.

Stress can cause problems like having your baby come too soon or having a baby that is under weight. It is important to choose healthy ways to deal with your stress.

Some ways are:

- Understand that the stress you are feeling is normal.
- Get plenty of rest – it is important for you and your baby.
- Find healthy ways to relax. Taking just a few minutes a couple times during the day to close your eyes in a quiet place can help. Reading, listening to music, or writing in a journal can also help you to relax.
- Avoid the urge to drink alcohol, smoke or take drugs as ways of coping with stress.
- Talk to friends, family members, or clergy for comfort and share your experiences and feelings with them.
- If you feel like you can't deal with your stress or that your friends or family can't help, talk to a counselor, doctor or nurse.

For more information about what you have read on this form please call Mother to Baby at 1-866-626-6847.

BREASTFEEDING MOTHERS

Breastfeeding is recommended for optimal infant nutrition. Breastfeeding remains the best infant feeding option in a natural disaster situation. Even when experiencing diarrhea, food-borne illness, or extreme stress, breastfeeding mothers continue to produce ample milk for their babies.

Women and health professionals who need additional information about the effects of exposures, such as stress, related to a disaster on pregnancy or breastfeeding can call the Organization of Teratology Information Specialists (OTIS) at 1-866-626-OTIS or 1-866-626-6847.

INFANTS

If you are away from your home, there are steps you can take to help your baby sleep safely. To reduce the risk of sudden infant death syndrome (also known as SIDS) and other sleep-related causes of infant death, take the following actions:

- Place your baby on his or her back for all sleep times—for naps and at night.
- Use a firm sleep surface designed for babies, such as a mattress in a safety-approved crib or portable crib, covered by a fitted sheet.
- Have the baby share your room, not your bed. Your baby should not sleep on an adult bed, cot, air mattress or couch, or on a chair alone, with you, or with anyone else.
- Keep soft objects, such as pillows and loose bedding, out of your baby's sleep area.
- Do not smoke or allow smoking around your baby.

CHILDREN

- Children may be very frightened and need help coping after a storm.
- After a storm, help children to understand that they are safe and secure by talking, playing and doing other family activities with them.
- Visit nctsn.org/trauma-types/natural-disasters for more ideas on how to reassure children they are safe after a major storm.
- Use tips to keep children safe in the aftermath.
- Prevent children from playing in or around floodwaters. It doesn't take long or much water for children to drown. Learn more online at www.ready.gov/floods.
- Talk to your children about where you are evacuating, explain that you are doing so to keep them safe
- If you are evacuating, make sure you take your and your family's meds
- If you are separated from your child, make sure he or she knows how to get in touch with you
- Make sure your child's emergency contact info is up to date with their school

- Floods pose special danger to children. Watch for dangerous situations and learn how to keep kids safe.
- Never leave young children alone or allow them to play in damaged buildings or in areas that might be unsafe.
- Children may be afraid to sleep alone and may want to sleep with a parent or another person. Be as flexible as you can.
- Children will feel more secure if you can stick to a routine as much as possible - eat/sleep at the same time as always.
- Make sure flood-damaged surfaces are disinfected to protect your children from exposure to toxins.
- Some children may be quiet or withdrawn. Others may become upset easily, cry frequently, and/or become angry. Encourage children to talk.
- Children with autism may have difficulties with changes in routine - help them anticipate changes/tell them what might happen. It may be helpful to use stories.
- Parents spending much of their time cleaning up and/or rebuilding their lives and homes may cause children to feel neglected. Involve them. This will build life skills.

OLDER ADULTS

Keep a list of medications, allergies, special equipment, names and numbers of doctors, pharmacists and family members along with eyeglasses, medication and walking aids. Have these items ready to take with you if you need to evacuate.

Many older adults are able to live independently with help from friends, family members, caregivers, or in-home services that provide meals, home-based health care, and help with daily needs. Friends, family and neighbors should check on older adults to make sure they are getting the assistance they need.

Older adults do not adjust as well as well as young people to sudden changes in temperature. They are more likely to have a chronic medical condition that changes normal body response to heat. They are more likely to take prescription medicines that affect the body's ability to control its temperature or sweat.

Planning considerations when preparing for and protecting older adults in an emergency.

- Use shelter intake procedures to identify vulnerable older adults; the shelter intake process can be an effective way for emergency management officials to identify older adults in the community who may need special help
- Capture information on older adults in shelters: demographics, prevalence of chronic conditions, functional and access needs, and proportion that rely on services through organizations for independence.
- Shelter facilities should meet the needs of this population, such as accessible to people who need help or certain accommodations to perform routine care or activities of daily living (e.g., to use the bathroom, bathe, dress, groom, or get into and out of bed), accessible to people who have certain

disabilities, such as those who use a wheelchair, and include signs and other forms of communication that can be understood by older adults.

More resources:

https://www.cdc.gov/phpr/documents/aging.pdf

https://www.cdc.gov/aging/emergency/planning_tools/planning_guides.htm

https://www.cdc.gov/disasters/extremeheat/older-adults-heat.html

PEOPLE WITH DISABILITIES

- Helping someone in wheelchair? They may be able to transfer themselves. Be respectful of their independence.
- A car battery can charge an electric wheelchair during power outage. More tips for people with disabilities.
- If someone is helping you shelter because you have a disability, explain how they can best assist you.
- Always ask a person with a disability how you can best assist them to shelter or cope.

PEOPLE WITH CHRONIC ILLNESS

- Resources for people with blood disorders https://www.cdc.gov/ncbddd/disasters/blood.html
- Resources for people with other chronic conditions: https://www.cdc.gov/disasters/chronic.html

PET SAFETY

CDC recommends the following guidance regarding Pet Safety in Emergencies:

- Make a Plan - Disasters can happen without warning, so be prepared for the event.
- Sheltering in Place - When sheltering at home with your pet, make sure the room chosen is pet-friendly
- If you need to evacuate, contact your local emergency management office and ask if they offer accommodations for owners and their pets.
- If accommodations are needed for your pet(s):
    - Contact local veterinary clinics, boarding facilities, and local animal shelters. Visit the Humane Society website to find a shelter in your area. .
    - Contact family or friends outside the evacuation area.

  - Contact a pet-friendly hotel, particularly along evacuation routes.

- Prepare a pet disaster kit - prepare a disaster kit for your pet(s), so evacuation will go smoothly for your entire family. Ask your veterinarian for help putting it together.
- Protect yourself from injury and illness - disasters are stressful for humans and pets alike. Practice safe handling of your pet, because your pet may behave differently during a stressful situation.
- Diseased pets can transmit to people during a natural disaster - natural disasters can contribute to the transmission of some diseases. Exposure to inclement weather conditions, stagnant water, wildlife or unfamiliar animals, and overcrowding can put your pet at risk for getting sick. Some of these illnesses can be transmitted to people.

What if I am separated from my pet?

- Make sure that your family is in a safe location before you begin your search.
- If you are in a shelter that houses pets, inform one of the pet caretakers. Give the pet caretaker your pre-made missing pet handout.
- Once you have been cleared to leave the shelter and return home, contact animal control about your lost pet.
- For more information about pet safety during an emergency, please visit online: https://www.cdc.gov/features/petsanddisasters/index.html

ADDITIONAL WEB AND SOCIAL MEDIA RESOURCES

- https://www.cdc.gov/disasters/hurricanes/hurricane_harvey.html
- https://www.cdc.gov/disasters/hurricanes/index.html
- https://www.cdc.gov/nceh/toolkits/hurricanes/default.html
- https://www.cdc.gov/disasters/floods/index.html
- https://www.cdc.gov/nceh/toolkits/floods/default.html
- https://www.cdc.gov/disasters/hurricanes/pdf/infographic-be-ready-hurricanes.pdf
- https://www.cdc.gov/disasters/hurricanes/educationalmaterials.html
- https://www.cdc.gov/phpr/infographics/br-floods.htm
- https://www.cdc.gov/disasters/mold/report/pdf/2005_moldtable5.pdf
- http://www.nws.noaa.gov/os/water/tadd/

FOR MORE INFORMATION

CDC website – http://www.cdc.gov

CDC Harvey website – https://www.cdc.gov/disasters/hurricanes/hurricane_harvey.html

CDC emergency website – https://www.emergency.cdc.gov

CDC-INFO by phone:

Monday - Friday

8:00 a.m. - 8:00 p.m. EST

800-CDC-INFO

(800-232-4636)

TTY 888-232-6348

CDC-INFO by email:

https://wwwn.cdc.gov/dcs/ContactUs/Form

Related Websites

- **FEMA website** – https://www.fema.gov
- **FDA website –** https://www.fda.gov

From: Hoskins, Sharon (K.D.) (CDC/OD/OADC)
Sent: 12 Oct 2017 10:35:12 -0400
To: Fontenot, Monique (OS/ASPA)
Cc: Daniel, Katherine Lyon (CDC/OD/OADC);Guest, Megan (CDC/OD/OADC);Burden, Bernadette (CDC/OD/OADC)
Subject: CDC Hurricane updates for 10/12/2017

Key Messages

- Working to fill-in known information gaps about health messaging in both national and local media
- Working on a reactive statement about potential disease outbreaks in Puerto Rico; particularly, leptospirosis

Social Media

- Continued posting social media content on CO poisoning prevention, water safety/ boil water advisories, flood water safety, extreme heat, and mosquito bite prevention.
- Posted translated social media content to Spanish channels on topics listed above.
- Developed new social media content on mental health resources, hand washing/ general hygiene, safe diapering in emergency situations, and content to support the social media for Puerto Rico/ US VI communities digital toolkit.
- Coordinating with Content team to post CDC social media content into seven Facebook groups targeting people in certain Puerto Rico communities or relatives of Puerto Ricans living stateside.
- Sharing links to all posted content to CDC partners & HHS for cross sharing on content
- Coordinating with OPHPR and NCEH social media channel managers so that concurrent messaging shared on CDC Emergency channels and at a greater frequency. Additional messaging targeting Hurricane Maria affected areas shared on this channel as well.

News Media

- No major media inquiries

From: CDC IMS JIC Lead
Sent: 17 Oct 2017 10:23:23 -0400
To: Daniel, Katherine Lyon (CDC/OD/OADC);Hoskins, Sharon (K.D.) (CDC/OD/OADC);Burden, Bernadette (CDC/OD/OADC);Michael, Gretchen (OS/ASPR/COO);Kane, Elleen (OS/ASPR/COO)
Cc: CDC IMS JIC Lead
Subject: CDC JIC TP for NICCL Oct 17 2017

Below are the talking points for our NICCL call today.

CDC JIC was able to get flyers successfully printed yesterday from Office Max on the ground in USVI. We will continue to use on-the-ground printing support for USVI going forward. Our staff in the Virgin Islands have been able to conduct outreach visits to communities and are creating fact sheets for shelters on body lice, mental health, and hand hygiene .

In Puerto Rico, our staff continue to support the communications effort at PRDOH. Yesterday they coordinated three interviews for the Deputy Secretary for Environmental Health. She spoke on the departments vector control efforts, hand washing, chlorine tablets and drops, how to avoid leptospirosis, and proper disposal of spoiled food. The team is also working to put together fact sheets that can be sent home with children once schools re-open and continues to distribute flyers to teams going out into the field.

We are working on staffing three additional communications specialists for St. Thomas, USVI. CDC JIC is developing the Task Order for those deployers.

Heather

JIC Leadership
2017 Hurricane Response
Centers for Disease Control and Prevention
CDC Joint Information Center
eocjiclead@cdc.gov

From: kdl8@cdc.gov
Sent: 21 Oct 2017 16:31:36 -0400
To: Yoest, Charmaine (OS/ASPA);Lloyd, Matt (OS/ASPA);Murphy, Ryan (OS/ASPA);Hall, Bill (HHS/ASPA)
Subject: CDC outbreak investigation- Leptospirosis specimens from Puerto Rico

This information has also been provided to the HHS SOC:

Earlier this week, Puerto Rico Department of Health (PR DOH) directed PR hospitals, clinics, and physicians to forward clinical samples from suspected Leptospirosis cases to PR DOH. PR DOH and CDC in the PR with the Incident Response Command Team (IRCT) will coordinate overnight shipment of the suspected Leptospirosis case samples to CDC Atlanta. Upon receipt of the samples at CDC, CDC will analyze the samples using the antibody based test (i.e., PCR), which is the only laboratory test that confirms whether a person is infected with Leptospirosis. At this time CDC is able to process 200 Leptospirosis tests per week. All patient sampling results will be sent back to PR DOH via an encrypted message. PR DOH will then forward the final results to the appropriate hospital, clinic, and/or physician.

On October 20th, CDC received the first shipment of specimens from PR for confirmatory testing for Leptospirosis. Specimens from six patients were tested. **Three of the six patients are confirmed positive for Leptospirosis by PCR including one fatality.** Pathology results are pending. CDC has sent results back to PR DOH.

Please let us know if there are any additional questions regarding this matter.

From: Alvey, Robert (CDC/OPHPR/DEO)
Sent: 7 Oct 2017 10:37:36 -0400
To: Daniel, Katherine Lyon (CDC/OD/OADC);Michael, Gretchen (OS/ASPR/COO);Hoskins, Sharon (K.D.) (CDC/OD/OADC);Kane, Elleen (OS/ASPR/COO)
Cc: CDC IMS JIC Lead
Subject: CDC Report for NICCL call

The following will be reported during the 11a call.

Repurposed pre-landfall guidance for Hurricane Nate.
Social media, web and partners newsletter.
Continue to track Nate
Working on printing and shipping to the PR and USVI flyers on safe water, mold, threats associated with flood waters, food safety.
Leptospirosis. Message was clear and is being circulated via social media.

From: Funk, Renee (CDC/ONDIEH/NCEH)
Sent: 17 Oct 2017 13:59:24 -0400
To: Kadlec, Robert (OS/ASPR/IO);Fitzgerald, Brenda (CDC/OD)
Cc: Bryant, Jeffrey (Jeff) (CDC/OPHPR/DEO);Redd, Stephen (CDC/OPHPR/OD);Breysse, Patrick N. (CDC/ONDIEH/NCEH);Knutson, Donna (CDC/ONDIEH/NCEH);Dieser, Edward (CDC/ONDIEH/NCEH);Rodenbeck, Sven (ATSDR/DCHI/OD);CDC IMS Incident Manager -2;Hurricane Response (CDC)
Subject: CDC/ATSDR Bio Report 17OCT17
Attachments: Copy of CDC Syndromic Data_20171016.xlsx, CDC Syndromic Data_Hurricane Response_20171016.docx

Syndromic Surveillance

CDC's NSSP-ESSENCE Syndromic Surveillance summary focuses on data from operational ASPR Disaster Medical Assistance Teams (DMATs) in Puerto Rico and U.S. Virgin Islands (USVI). Due to connectivity problems in deployed areas file transfer is not always possible, and as a result these data do not represent all DMAT encounters.

- Approximately 115 syndromes, sub-syndromes, and categories are reviewed daily.
- The syndromes are based upon the patient's chief complaint text field, not diagnosis codes.
- These data capture medical visit data from the locations where the DMATs are operational.
- Data below are cumulative from the beginning of the response through most current available.
- MS Excel spreadsheets provide daily counts and percent of visits for ESSENSE sub-syndromes potentially relevant to the hurricane response and recovery.
- Data are provisional and subject to change as new data are processed.

Overview

- Data from 1788 total encounters have been received as of 0900 October 16, 2017 in DMATs deployed to Puerto Rico and the U.S. Virgin Islands since 09/25/2017.
- Overall, DMAT encounters/chief complaints are typical of those following hurricane disasters.
- Most common chief complaints are related to: injuries related to cuts/lacerations, musculoskeletal pain, and normal health maintenance for existing chronic diseases.

USVI DMAT Syndromic Data – Updated 10/16/2017 at 0900

- 252 encounters have been received from the St. Croix DMAT between 0900 October 16, 2017 and 09/27/2017 – No encounters received since October 12.
- Most common chief complaints for past encounters were related to: cuts/laceration injuries, musculoskeletal pain, and requests for medication refills.
- Potential Encounters of Interest
    - None at this time

Puerto Rico DMAT Syndromic Data – Updated 10/16/2017 at 0900

- 1536 encounters have been received from 4 DMATs and 1 FMS located in the San Juan area, Caguas, Manati (an FMS), and Humacao.

- Most common chief complaints are related to: musculoskeletal pain, injuries due to cuts/lacerations, falls, and normal health maintenance of chronic conditions.
- Potential Encounters of Interest
    - From previous SITREP
        - On 10/03/2017 between were six encounters at DMAT-Centro Medico San Juan with eye infection and/or conjunctivitis mentioned. All female between the ages 20-49.
        - On 10/08/2017 one patient in PR mentioned symptoms of diarrhea, headache, fever, and body aches as well as "concern is over leptospirosis". Mentions starting "azithro" completed 2 of a 3 day dose. Diagnosis notes "major depression."
    - New from 10/16/17
        - Additional encounters related to "eye infections" and "conjunctivitis" continue to be observed – 50 from 09/25-10/16.

Vector Control

Puerto Rico

- DoD is awaiting a Mission Assignment and will perform surveillance and treatment and PRDOH will lead public outreach activities. CDC will assist with laboratory capacity.

US Virgin Islands

- Very limited treatment is occurring using mosquito dunks. A CDC entomologist is arriving in USVI tomorrow to assist with vector control planning.

Water

Puerto Rico

- All of Puerto Rico is under a boil water notice.
- As of 10/15, 64% of the PRASA clients have access to drinking water (PRASA services 96% of the population)
- It has been reported that individuals were using monitoring wells at the Dorado Superfund site for drinking water. EPA has secured these wells and is informing the public not to drink this water. There are drinking water wells located nearby that are used by PRASA.
- 29 out of 51 of PRASA's wastewater treatment plants are operating on generator power and 22 are non-operational
    - Approximately 80% of the 800 PRASA wastewater pump stations have been assessed
        - 387 had overflowing sewage primarily due to a lack of power for the pumps
- We are continuing to support communications team with water disinfection information

US Virgin Islands

- Some areas are beginning to regain potable water, however a boil water notice is still in effect, due to leaks and pressure drops which may allow for contamination of the water.
- 3 of the wastewater treatment plants are on generators and 3 are non-operational.

Vaccines

CDC/ATSDR is consulting and coordinating with PR DOH, USVI DOH, and associated IRCTs to assure that appropriate vaccines are available in PR and USVI.

Note: Because FL and TX health departments have returned to normal pre-hurricanes operations and surveillance activities, CDC/ATSDR is only reporting public health information regarding PR and VI.

CDC 2017 Hurricane Response Syndromic Surveillance Summary: 10/16/2017

Provisional Data for Public Health Response and Situational Awareness Only

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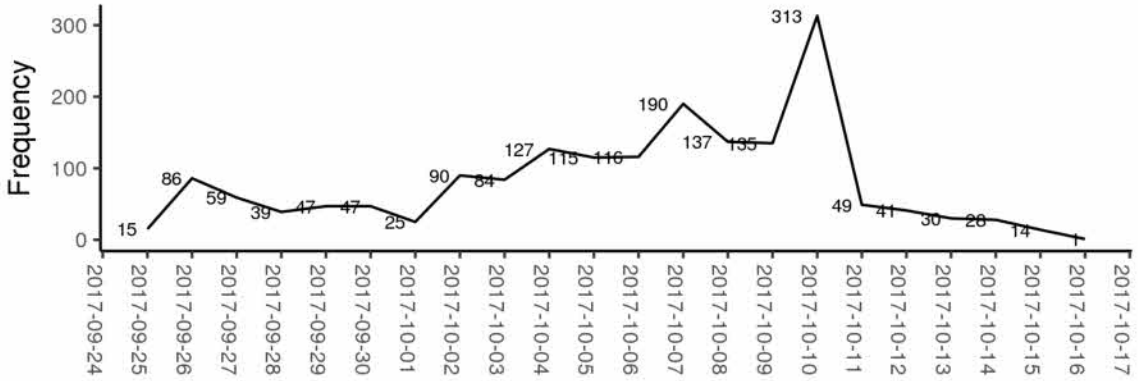
CDC 2017 Hurricane Response Syndromic Surveillance Summary: 10/16/2017

Provisional Data for Public Health Response and Situational Awareness Only

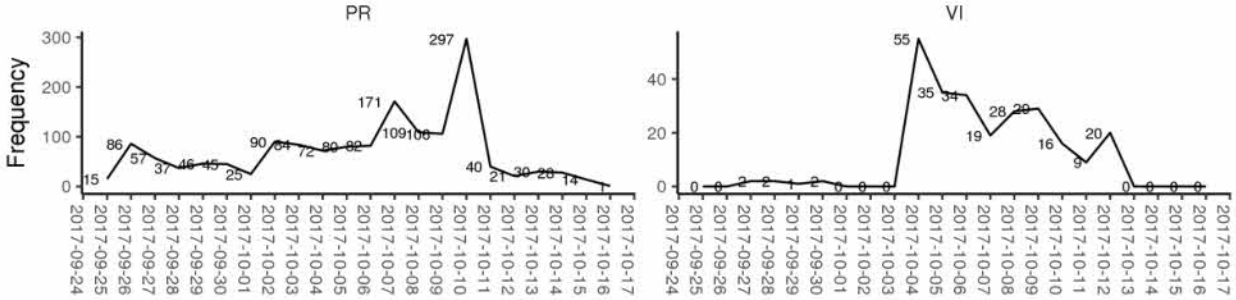
PR and USVI DMAT Daily Total Volume, 2017

DMATs=6 and N=1788 encounters



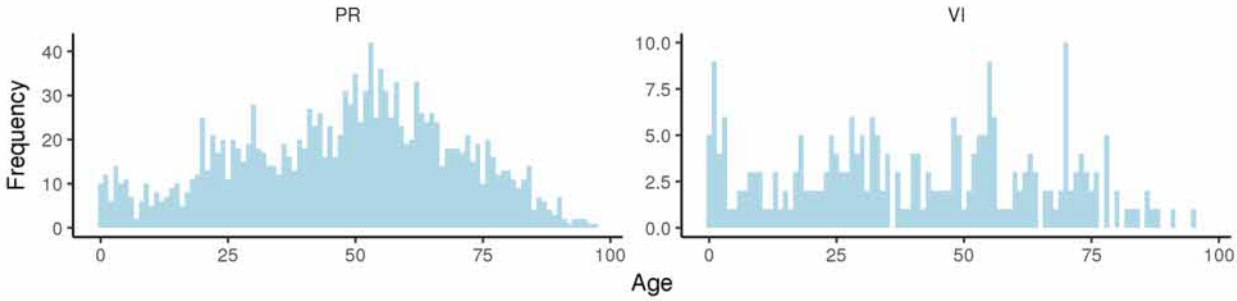
PR and USVI DMAT Daily Total Volume by Jurisdictions, 2017

DMATs=6 and N=1788 encounters



PR and USVI DMATs - Age Distribution for Encounters, 09/25/2017-10/12/2017

DMATs=6 and N=1788 encounters



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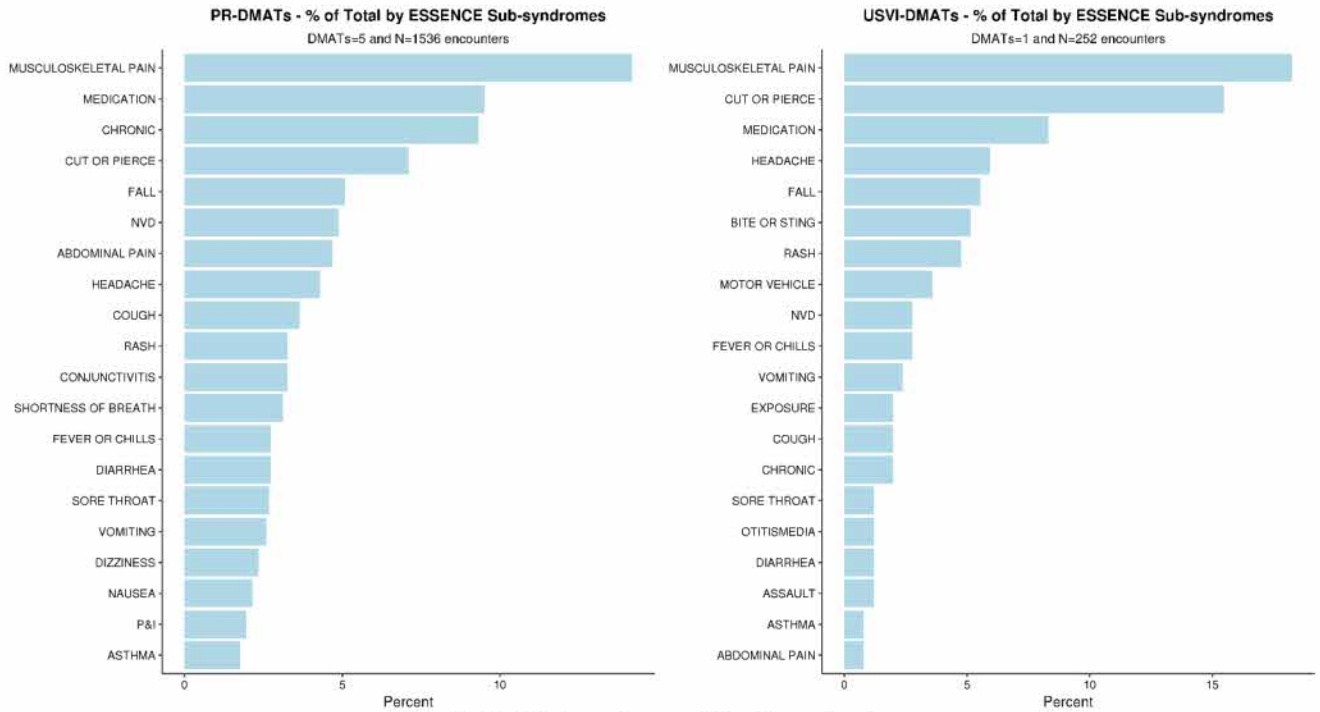

Approximately 26% of encounters were not binned in any sub-syndrome;
DMATs=6 and N=1788 encounters

From: Wortman, Eric (CDC/OD/CDCWO)
Sent: 4 Dec 2017 12:23:02 -0500
To: Hayes, Sean (HHS/ASL);Kemper, Laura (HHS/ASL)
Cc: Wolfe, Mitchell (CDC/OD/CDCWO);Brand, Anstice M. (CDC/OD/CDCWO);Bradsher, Kris (HHS/ASL)
Subject: FW: 10.24.17 O&I Hearing Questions for the Record
Attachments: 10.24.17 QFRs_Redd.pdf, QFRs from Dr. Redd Oct 24th Hearing 120417.docx

Hi, ASL colleagues –

Attached please find CDC's responses to the QFR's form Dr. Redd's hearing before O&I on October 24th. Please let us know if you have any questions as these go through clearance.

Eric

Eric Wortman
CDC Washington
Phone: 202-245-0616

From: Fulling, Ali [mailto:Ali.Fulling@mail.house.gov]
Sent: Thursday, November 9, 2017 3:28 PM
To: Hayes, Sean (HHS/ASL) <Sean.Hayes@hhs.gov>; Kemper, Laura (HHS/ASL) <Laura.Kemper@hhs.gov>; Richman, Karyn (CDC/OD/CDCWO) <ygn7@cdc.gov>
Subject: 10.24.17 O&I Hearing Questions for the Record

Good afternoon,

A copy of Rear Admiral Redd's questions for the record from the October 24, 2017, Subcommittee on Oversight and Investigations hearing, "Examining HHS's Public Health Preparedness for and Response to the 2017 Hurricane Season" are attached to this email. You will also receive them in hard copy form by mail. Please contact me with any questions or concerns, and thank you in advance for your help.

Thank you,

Ali Fulling | Legislative Clerk
U.S. House Committee on Energy and Commerce
(202) 225-2927 (main)

GREG WALDEN, OREGON
CHAIRMAN

FRANK PALLONE, JR., NEW JERSEY
RANKING MEMBER

ONE HUNDRED FIFTEENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE
2125 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515–6115
Majority (202) 225–2927
Minority (202) 225–3641

November 9, 2017

Rear Admiral Stephen C. Redd, MD
Director
Office of Public Health Preparedness and Response
Centers for Disease Control and Prevention
1600 Clifton Road
Atlanta, GA 30329

Dear Admiral Redd:

Thank you for appearing before the Subcommittee on Oversight and Investigations on Tuesday, October 24, 2017, to testify at the hearing entitled "Examining HHS's Public Health Preparedness for and Response to the 2017 Hurricane Season."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. The format of your responses to these questions should be as follows: (1) the name of the Member whose question you are addressing, (2) the complete text of the question you are addressing in bold, and (3) your answer to that question in plain text.

To facilitate the printing of the hearing record, please respond to these questions with a transmittal letter by the close of business on Tuesday, November 28, 2017. Your responses should be mailed to Ali Fulling, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, DC 20515 and e-mailed in Word format to Ali.Fulling@mail.house.gov.

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,

Greg Walden

Greg Walden
Chairman

cc: The Honorable Diana DeGette, Ranking Member, Subcommittee on Oversight and Investigations

Attachment

Attachment—Additional Questions for the Record

The Honorable Greg Walden

1. According to the Centers for Disease Control and Prevention's (CDC) testimony on October 24, 2017, laboratories in Puerto Rico are not able to conduct any public health tests because of damage sustained during Hurricane Maria. As a result, the CDC is lending support and arranging clinical specimens for suspected priority infectious diseases—such as tuberculosis, leptospirosis, rabies, influenza, and salmonella—to be sent to the U.S. mainland for testing. To date, how many specimens has CDC sent to the U.S. mainland for testing?

    a. Approximately how long does it take for CDC to receive a diagnostic result for the samples it sends to be tested on the U.S. mainland?

    b. What, if any, infectious diseases have been detected through the testing of these specimens?

    c. Do the laboratories in Puerto Rico have generator power yet? If not, when does CDC expect the laboratories in Puerto Rico to be at least partially functional?

    d. Has CDC assessed what, if any, equipment from the laboratories can be salvaged?

2. What disease risks have been detected by CDC's National Syndromic Surveillance Program in the affected regions?

3. During the Agency's hurricane response efforts, has CDC identified any scarcities of medical supplies, such as vaccines, that could hinder the public health response efforts? If so, could you please elaborate?

The Honorable Gus Bilirakis

1. Can you discuss public health surveillance post-storm?

    a. What public health and health care delivery challenges still exist?

    b. Have previous public health hazards (like Zika) been heightened? If so, how do we proactively address during our recovery process?

The Honorable Frank Pallone, Jr.

1. There have been 51 deaths officially associated by Hurricane Maria, as reported by the Puerto Rico government. The Center for Disease Control has confirmed three deaths due to leptospirosis. To date, the island has reported 76 possible cases of the disease. What is the Department of Health and Human Services (HHS) doing to prepare for the potential onslaught of disease caused by contaminated drinking water and the spread of leptospirosis?

2. What are HHS, CDC, and other involved federal agencies doing to ensure local Puerto Rico government employees have the necessary health and safety equipment to protect themselves during their ongoing relief and recovery work? a. Which federal government agencies are responsible for providing needed Personal Protective Equipment (PPEs) to relief and recovery workers?

3. What precautionary measures and/or infrastructure is currently in place to treat potential disease outbreaks in geographically remote areas?

4. What percentage of the population of Puerto Rico and the U.S. Virgin Islands currently has access to potable water through their tap? Is the CDC certain that, where water service has been restored, that the water is safe to drink?

The Honorable Jan Schakowsky

1. Following up, in the aftermath of disasters like these devastating Hurricanes, government should provide relief and recovery workers with required health and safety protections and Personal Protective Equipment (PPEs) to ensure workers' health is not compromised during current and ongoing clean-up and future rebuilding. Unfortunately, we have heard that this is causing problems in Puerto Rico.

   We know Puerto Ricans in both the private and public sector want to do the work needed to help rebuild their lives, homes, communities, and their Commonwealth. Government workers are willing and eager to help address short-term needs –even when working as assigned by the Puerto Rico government is outside their long-standing employee responsibilities and expertise. Nonetheless, workers simultaneously want to protect their own health and safety and avoid unnecessary health problems. The long-term medical problems flowing from the tragic events on September 11, 2001 and the resulting cleanup efforts at Ground Zero and on the Pile taught us the vital importance of providing appropriate health and safety equipment and training to workers in conditions that are dangerous or uncertain.

   a. What is HHS, CDC, and other federal agencies doing to ensure local Puerto Rico government employees have the necessary health and safety equipment to protect themselves during their ongoing relief and recovery work?

   b. Have these issues been addressed in Puerto Rico?

   c. Which federal government agencies are responsible for providing needed PPEs to recovery workers?

The Honorable Kathy Castor

1. I also heard from these health professionals that water sanitation is one of the biggest issues in Puerto Rico right now, which is leading to gastrointestinal issues as well as systemic infections. How is the Administration helping get clean water to Puerto Rico, especially to remote areas? Additionally, how is HHS working with health professionals on the ground to treat illnesses stemming from the lack of clean water?

2. Physicians have told me they are seeing other health issues such as asthma, COPD, conjunctivitis, scabies, diabetes, and hypertension being exacerbated due to lack of medications, power, transportation and supplies, increased air pollution from generators and unsanitary living conditions. Is HHS monitoring this situation, and what steps are being taken to address these additional health issues?

The Honorable Pete Olson

1. After tackling 3 Hurricanes in a short period of time, what strains have you seen on your current resources. Also, what additional resources do you need to provide these communities the help that they need?

Questions for the Record

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(b)(5)

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CDC/ATSDR field staff in Puerto Rico have facilitated contacts between EPA and the Puerto Rican authorities. We also currently have a representative on a workgroup dealing with water quality.

(b)(5)

2. **Physicians have told me they are seeing other health issues such as asthma, COPD, conjunctivitis, scabies, diabetes, and hypertension being exacerbated due to lack of medications, power, transportation and supplies, increased air pollution from generators and unsanitary living conditions. Is HHS monitoring this situation, and what steps are being taken to address these additional health issues?**

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(b)(5)

From: CDC IMS JIC Lead
Sent: 6 Oct 2017 14:45:59 -0400
To: FEMA-ESF15-coordination@fema.dhs.gov
Cc: CDC IMS JIC Lead;Daniel, Katherine Lyon (CDC/OD/OADC);Hoskins, Sharon (K.D.) (CDC/OD/OADC);Harben, Kathy (CDC/OD/OADC);Kane, Elleen (OS/ASPR/COO);Michael, Gretchen (OS/ASPR/COO)
Subject: Fw: key messages
Attachments: CDC Hurricane Key Messages.docx, CDC Hurricane Key Messages.pdf

Please find the cleared TPs/Key Messages for tomorrow
Bob
JIC Leadership
2017 Hurricane Response
Centers for Disease Control and Prevention
CDC Joint Information Center
eocjiclead@cdc.gov

From: CDC IMS JIC Content
Sent: Friday, October 6, 2017 2:43 PM
To: CDC IMS JIC Lead
Subject: key messages
Hi Bob,

Attached are the key messages to send to FEMA.

Thanks!
Sabrina

On behalf of JIC Content
(404) 553-7762
eocjicsms@cdc.gov

2017 HURRICANE KEY MESSAGES

Event: 2017 Hurricane Season

Today's Date: October 6, 2017

This key messages document is for internal and external use. It contains the messaging that has been cleared for use in developing other materials related to this emergency response.

Newly updated information in this document is indicated in bold blue.

Key Messages

CONTENTS

BACKGROUND

The Centers for Disease Control and Prevention (CDC) and Agency for Toxic Substances and Disease Registry (ATSDR) are working with federal, state and local agencies as well as global health partners in response to Hurricanes Harvey, Irma, and Maria.

This document summarizes cleared key messages about Hurricanes Harvey, Irma, and Maria and the response by CDC and its partners. It will be updated as new information becomes available and will be distributed regularly. Please share this document with others as appropriate.

Newly updated information is indicated in bold blue with previously cleared messaging and response content shown in black.

UPDATE HIGHLIGHTS

Below are some of the major updates to the CDC Key Messages for the week of 10/9

- A new section about how to prevent the spread of conjunctivitis *[Pages 8-10]*
- Information on the activities of CDC's Strategic National Stockpile to help pharmaceutical access in affected areas. *[p 48-49]*
- Updated information for children and infants *[p 43-46]*
- Added web link for people with diabetes. *[p 46]*

PUBLIC HEALTH PRIORITY MESSAGES FOR HURRICANE MARIA

This week, promoting food, water and medication safety, promoting safe clean up, preventing physical injuries, and vector control continue to be priorities for health and safety in Puerto Rico and the US Virgin Islands.

Keep food, water, and medication safe.

Water: Do not use water you suspect or have been told is contaminated to wash dishes, brush your teeth, wash and prepare food, wash your hands, make ice, or make baby formula.

- Water often can be made safe to drink by boiling, adding disinfectants.
- If using a point of use filter (like a filter attached to a pitcher or to your sink), the filtered water should be boiled or disinfected before use.
- IMPORTANT: Water contaminated with fuel or toxic chemicals will not be made safe by boiling, disinfection or filtration
- Follow local recommendations for boiling or treating water in your area.

Food: Throw away food that may have come in contact with flood or storm water, perishable foods, and those with an unusual odor, color, or texture.

Medication: Some drugs require refrigeration to keep their strength, including many liquid drugs. When the power is out for a day or more, throw away any medication that should be refrigerated, unless the drug's label says otherwise. If a life depends on the refrigerated drugs, use them only until a new supply is available. Replace all refrigerated drugs as soon as possible.

- Resources for people with chronic disease or disability

Stay safe during power outages.

- NEVER touch a fallen power line.
- Do not drive through standing water if downed power lines are in the water.
- If a power line falls across your car while you are driving, stay inside the vehicle and continue to drive away from the line.
    - If the engine stalls, do not turn off the ignition. Do not allow anyone to touch the vehicle. Call or ask someone to call the local utility company and emergency services.
- Keep generators at least 20 feet away from your home. Don't grill inside. Fumes can kill.

If it's hot, move to a cooler place, take sips of water, and take cool showers.

Prevent mosquito bites, and avoid wild or stray animals.

Prevent mosquito bites:

- Wear long-sleeved shirts and long pants.
- Stay in places with air conditioning and window and door screens to keep mosquitoes outside.
- Treat your clothing and gear with permethrin or buy pre-treated items (except in Puerto Rico, where permethrin is not effective).
- Use Environmental Protection Agency (EPA)-registered insect repellents on exposed skin. Use a repellent with one of the following active ingredients: DEET, picaridin, IR3535, oil of lemon eucalyptus, para-menthane-diol, or 2-undecanone.
    - See EPA's search tool here.
    - Always follow the product label instructions.
    - Reapply insect repellent as directed.
    - Do not spray repellent on the skin under clothing.
    - If you are also using sunscreen, apply sunscreen first and insect repellent second.
- For babies and children:
    - Dress your child in clothing that covers arms and legs.
    - Cover crib, stroller, and baby carrier with mosquito netting.
    - See insect repellent recommendations for children below.

For more information, please see Prevent Mosquito Bites.

Avoid wild or stray animals:

- Call local authorities to handle animals.
- Secure all food sources and remove any animal carcasses to avoid attracting rats.

AVOID DRIVING THROUGH FLOODED AREAS

Avoid driving through flooded areas and standing water. As little as six inches of water can cause you to lose control of your vehicle, and two feet of water can cause your car to be swept away. Turn around, don't drown.

During Hurricane Matthew in October 2016, the majority of deaths were due to drowning and most of those drowning deaths were related to driving through water.

STAY SAFE IN A FLOOD

- Emergency management officials have requested that people escaping flood waters as a last resort do not stay in the attic of their house. If the highest floor of your home becomes dangerous, get on the roof. Call 911 for help and stay on the line until the call is answered.
- Follow local flood watches, warnings and instructions.
- Flood water poses drowning risks for everyone, regardless of their ability to swim. Swiftly moving shallow water can be deadly, and even shallow standing water can be dangerous for small children.
- Vehicles do not provide adequate protection from flood waters. They can be swept away or may stall in moving water.
- If flooding occurs, get to higher ground. Get out of areas subject to flooding. This includes dips, low spots, canyons, washes, etc.
- If you are in an area that is in danger of flooding or you are under a flood watch or warning:
    - Gather the emergency supplies, including prescription medications, you previously stocked in your home and stay tuned to your local radio or television station for updates.
    - Turn off all utilities at the main power switch and close the main gas valve if evacuation appears necessary.
    - Have your immunization records handy or be aware of your last tetanus shot, in case you receive a puncture wound or a wound becomes infected during or after the flood.
    - Immunization records should be stored in a waterproof container.
    - Fill bathtubs, sinks and containers with clean water. Sanitize the sinks and tubs first by using bleach. Rinse and fill with clean water.

PERSONAL HYGIENE AND HANDWASHING

Keeping hands clean during an emergency helps prevent the spread of germs. If your tap water is not safe to use, wash your hands with soap and water that has been boiled or disinfected. Follow these steps to make sure you wash your hands properly:

- Wet your hands with clean, running water (warm or cold) and apply soap.
- Rub your hands together to make a lather and scrub them well; be sure to scrub the backs of your hands, between your fingers, and under your nails.
- Continue rubbing your hands for at least 20 seconds. Need a timer? Hum the "Happy Birthday" song from beginning to end twice.
- Rinse your hands well under running water.
- Dry your hands using a clean towel or air dry them.

A temporary hand washing station can be created by using a large water jug that contains clean water (for example, boiled or disinfected).

Washing hands with soap and water is the best way to reduce the number of germs on them. If soap and water are not available, use an alcohol-based hand sanitizer that contains at least 60% alcohol. Alcohol-based hand sanitizers can quickly reduce the number of germs on hands in some situations, but sanitizers do not eliminate all types of germs.

Hand sanitizers are not effective when hands are visibly dirty.

Bathing or showering after a water-related emergency should only be done with clean, safe water. Sometimes water that is not safe to drink can be used for bathing, but be careful not to swallow any water or get it in your eyes.

If you have a drinking water well, listen to your local health authorities for advice on using your well water for showering and bathing. If extensive flooding has occurred or you suspect that your well may be contaminated, contact your local, state, or tribal health department for specific advice on well testing and disinfection.

CONJUNCTIVITIS

CDC is working with the Puerto Rico Department of Health to monitor cases of conjunctivitis, or pink eye, and provide assistance, as needed.

Below are a list of ways to minimize the spread of conjunctivitis to other people.

If you have conjunctivitis, you can help limit its spread to other people by following these steps:

- **Wash your hands often with soap and warm water. Wash them especially well before and after cleaning, or applying eye drops or ointment to, your infected eye. If soap and water are not available, use an alcohol-based hand sanitizer that contains at least 60% alcohol to clean hands. (See CDC's Clean Hands Save Lives! website for tips on proper handwashing.)**
- **Avoid touching or rubbing your eyes. This can worsen the condition or spread it to your other eye.**

- With clean hands, wash any discharge from around your eye(s) several times a day using a clean, wet washcloth or fresh cotton ball. Throw away cotton balls after use, and wash used washcloths with hot water and detergent, then wash your hands again with soap and warm water.
- Do not use the same eye drop dispenser/bottle for your infected and non-infected eyes.
- Wash pillowcases, sheets, washcloths, and towels often in hot water and detergent; wash your hands after handling such items.
- Stop wearing contact lenses until your eye doctor says it's okay to start wearing them again.
- Clean eyeglasses, being careful not to contaminate items (like hand towels) that might be shared by other people.
- Clean, store, and replace your contact lenses as instructed by your eye doctor.
- Do not share personal items, such as pillows, washcloths, towels, eye drops, eye or face makeup, makeup brushes, contact lenses, contact lens storage cases, or eyeglasses.
- Do not use swimming pools.

If you are around someone with conjunctivitis, you can reduce your risk of infection by following these steps:

- Wash your hands often with soap and warm water. If soap and warm water are not available, use an alcohol-based hand sanitizer that contains at least 60% alcohol to clean hands. (See CDC's Clean Hands Save Lives! website for tips on proper handwashing.)
- Wash your hands after contact with an infected person or items he or she uses; for example, wash your hands after applying eye drops or ointment to an infected person's eye(s) or after putting their bed linens in the washing machine.
- Avoid touching your eyes with unwashed hands.
- Do not share items used by an infected person; for example, do not share pillows, washcloths, towels, eye drops, eye or face makeup, makeup brushes, contact lenses, contact lens storage cases, or eyeglasses.

General Conjunctivitis Key Messages:

- Conjunctivitis – or pink eye – is common in adults and children. It spreads quickly and sometimes needs medical treatment, depending on the cause.

- Several viruses and bacteria can cause conjunctivitis (pink eye). Both viral and bacterial conjunctivitis are highly contagious. Each of these types of germs can spread from person to person in different ways. They usually spread from an infected person to others through:
    - Close personal contact, such as touching or shaking hands
    - The air by coughing and sneezing

- **Touching an object or surface with germs on it, then touching your eyes before washing your hands**

Classic symptoms can include:

- **Pink or red color in the white of the eye(s)**
- **Watery eyes**
- **Itchy or scratchy eyes**
- **Discharge from the eye(s)**
- **Crusting of eyelids or lashes**

For more information on conjunctivitis, please visit online at: https://www.cdc.gov/conjunctivitis/index.html.

DIARRHEAL DISEASES

Eating or drinking anything contaminated by flood water can cause diarrheal disease (such as *E. coli* or *Salmonella* infection). To protect yourself and your family:

- Practice good hygiene (handwashing with soap and water) after contact with flood waters.
- Do not allow children to play in flood water areas.
- Wash children's hands with soap and water frequently (always before meals).
- Do not allow children to play with toys that have been contaminated by flood water and have not been disinfected.
- For information on disinfecting certain nonporous toys, visit CDC Healthy Water's Cleaning and Sanitizing with Bleach section.

WOUND INFECTIONS

Open wounds and rashes exposed to flood waters can become infected. To protect yourself and your family:

- Avoid contact with flood waters if you have an open wound.
- Cover clean, open wounds with a waterproof bandage to reduce chance of infection.
- Keep open wounds as clean as possible by washing well with soap and clean water.
- If a wound develops redness, swelling, or oozing, seek immediate medical care.
- Vibrios are naturally occurring bacteria that live in certain coastal waters. They can cause a skin infection when an open wound is exposed to salt water or a mix of salt and fresh water, which can occur during floods.

The risk for injury during and after a hurricane and other natural disasters is high. Prompt first aid can help heal small wounds and prevent infection. Wash your hands with soap and water before and after

providing first aid for a wound to help prevent infection. Use an alcohol-based hand sanitizer that contains at least 60% if soap and water are not available. Tetanus, other bacterial infections, and fungal infections are potential health threats for persons who have open wounds.

Seek medical attention as soon as possible if:

- There is a foreign object (soil, wood, metal, or other objects) embedded in the wound;
- The wound is at special risk of infection (such as a dog bite or a puncture by a dirty object);
- An old wound shows signs of becoming infected (increased pain and soreness, swelling, redness, draining, or you develop a fever).

How to Care for Minor Wounds

- Wash your hands thoroughly with soap and clean water if possible.
- Avoid touching the wound with your fingers while treating it (if possible, use disposable, latex gloves).
- Remove obstructive jewelry and clothing from the injured body part.
- Apply direct pressure to any bleeding wound to control bleeding.
- Clean the wound after bleeding has stopped.
    - Examine wounds for dirt and foreign objects.
    - Gently flood the wound with bottled water or clean running water (if available, saline solution is preferred).
    - Gently clean around the wound with soap and clean water.
    - Pat dry and apply an adhesive bandage or dry clean cloth.
- Leave unclean wounds, bites, and punctures open. Wounds that are not cleaned correctly can trap bacteria and result in infection.
- Provide pain relievers when possible.

Other Considerations

- Expect a variety of infection types from wounds exposed to standing water, sea life, and ocean water.
- Wounds in contact with soil and sand can become infected.
- Puncture wounds can carry bits of clothing and dirt into wounds and result in infection
- Crush injuries are more likely to become infected than wounds from cuts.
- Take steps to prevent tetanus

IMMUNIZATIONS

Interim Immunization Recommendations for Individuals Displaced by a Disaster are available at https://www.cdc.gov/disasters/disease/vaccrecdisplaced.html

The purpose of these recommendations are two-fold:

1. To ensure that children, adolescents, and adults are protected against vaccine-preventable diseases in accordance with current recommendations. **Paper** immunization records are unlikely to be available for a large number of adult and child evacuees. Use of immunization information system (IIS) may be an important tool for healthcare providers. It is important that immunizations are kept current if possible.
2. To reduce the likelihood of outbreaks of vaccine-preventable diseases in large crowded group settings.

Easy to read schedules of routinely recommended immunization are available at https://www.cdc.gov/vaccines/schedules/easy-to-read/index.html

Immunizations for Crowded Group Settings:

In addition to the vaccines given routinely as part of the child, adolescent, and adult schedules, the following vaccines should be given to evacuees living in crowded group settings, unless the person has written documentation of having already **received** them:

- Influenza: everyone 6 months of age or older should receive influenza vaccine. For additional information see (MMWR 2017 Aug 25;66[2]:1-20).
- Varicella: everyone 12 months of age or older should receive one dose of this vaccine unless they have a documented record of immunization or documentation of health care provider diagnosis of chickenpox or shingles.
- MMR: everyone 12 months of age or older and born during or after 1957 should receive one dose of this vaccine unless they have a documented record of 2 doses of MMR **or other evidence of immunity.**

The following vaccines should not routinely be necessary for evacuees living in crowded group settings, unless otherwise indicated:

- Hepatitis A: Although hepatitis A vaccine is recommended for all children in the U.S. aged 12-23 months, evacuation itself is not a specific indication for hepatitis A vaccination of previously unvaccinated children per se unless exposure to hepatitis A virus is suspected. Persons who evacuate their homes under orderly conditions at the advisement of state or local officials to a congregate setting where sanitary conditions prevail should not require hepatitis A vaccine, unless they have been evacuated from an area where exposure to hepatitis A virus is likely or have been exposed to persons with suspected or proven hepatitis A infection.

Immunocompromised individuals, **such as persons with severe immunosuppression associated with HIV infection**, pregnant women, and those on systemic steroids or other immunosuppressive medications, should not receive the live viral vaccines, varicella and MMR. Screening should be performed by self-report.

TETANUS

Guidance for tetanus-related questions in areas affected by hurricanes:

Protection against tetanus:

- Vaccination prevents tetanus, however this does not last a lifetime. This means that if you were vaccinated before or had tetanus before, you still need to get vaccinated regularly to keep a high level of protection against this serious disease. Being up to date with your tetanus vaccine is the best tool to prevent tetanus.
- Tetanus vaccines are recommended for people of all ages. After a series of tetanus shots during childhood and adolescence, adults need a tetanus booster shot (Td) every 10 years. Td or the tetanus booster shot that add protection against pertussis, or whooping cough, (Tdap) can be used; getting Tdap instead of Td for one tetanus booster during adulthood is recommended to maintain protection against whooping cough.
- Guidance on tetanus vaccination can be found on the following CDC websites.
    - https://www.cdc.gov/disasters/floods/workersafety.html
    - https://www.cdc.gov/disasters/disease/immunizationqa.html
    - https://www.cdc.gov/disasters/disease/tetanus.html
    - https://www.cdc.gov/vaccines/schedules/easy-to-read/index.html

If you have wounds, you should be evaluated for a tetanus immunization. If you receive a puncture wound or a wound contaminated with feces, soil, or saliva, have a health care professional determine whether a tetanus booster is necessary based on individual records.

Risk of tetanus after exposure to flood water:

- Exposure to flood waters does not increase the risk of tetanus. However, some people may have wounds such as puncture to the skin or nail sticks, cuts, bruises, lacerations, or scrapes (or other skin injuries) that become contaminated with flood waters, human or animal wastes, soil, dirt, or saliva. Besides treatment of these wounds, the vaccination status of such persons should be assessed and an age-appropriate tetanus vaccine given if needed. In some of these situations, the doctor or healthcare provider may decide that a tetanus vaccine is needed as early as 5 years since the last dose.
- Being up to date for tetanus vaccine can greatly simplify the treatment for any wound that might occur.

Risk of tetanus to emergency responders, clean-up workers, volunteers

- During evacuation and flood cleanup, emergency responders, cleanup workers, or volunteers may be at increased risk for wounds (as named above). For this reason, such workers should be sure that they are up to date with tetanus vaccination, ideally before starting evacuation or cleanup activities.

- Being up to date for tetanus vaccine can greatly simplify the treatment for any wound that might occur.

Mass vaccination campaigns to prevent tetanus during flooding are not needed.

- Tetanus immunization campaigns for evacuees from flooding disasters are generally not needed. However, each state and local health departments may determine that a vaccination effort is warranted based on local considerations.

ANIMAL HAZARDS

Avoid Wild or Stray Animals

- Call local authorities to handle animals.
- Secure all food sources and remove any animal carcasses to avoid attracting rats.
- Get rid of dead animals, according to guidelines from your local animal control authority, as soon as you can. See Animal Disposal for answers to frequently asked questions.
- For more information, contact your local animal shelter or services, a veterinarian, or the Humane Society for advice on dealing with pets or stray or wild animals after an emergency.

Prevent Contact with Rodents

- Remove food sources, water, and items that can provide shelter for rodents.
- Wash dishes, pans, and cooking utensils immediately after use.
- Dispose of garbage and debris as soon as possible.

Prevent or Respond to a Snake Bite

- Be aware of snakes that may be swimming in the water to get to higher ground and those that may be hiding under debris or other objects.
- If you see a snake, back away from it slowly and do not touch it.
- If you or someone you know are bitten, try to see and remember the color and shape of the snake, which can help with treatment of the snake bite.
- Keep the bitten person still and calm. This can slow down the spread of venom if the snake is poisonous. Seek medical attention as soon as possible. Dial 911 or call local Emergency Medical Services. Poison Control Centers can also be a source of help and can be reached at 1-800-222-1222. Apply first aid if you cannot get the person to the hospital right away. Lay or sit the person down with the bite below the level of the heart.
    - Tell him/her to stay calm and still.
    - Cover the bite with a clean, dry dressing.

Plague:

There are reports that floodwaters bring a danger of plague. This is FALSE. Plague is rare in the United States. It is spread through fleas, not floodwater. CDC is not expecting to see an increased risk of plague from Hurricane Harvey. To learn more about plague, visit https://www.cdc.gov/plague/

MOSQUITOES AND HURRICANES

- Adult mosquitoes do not generally survive high winds during a hurricane.
- Immediately following a hurricane, flooding may occur. Mosquito eggs laid in the soil by floodwater mosquitoes during previous rain or floods hatch. This results in very large populations of floodwater mosquitoes. Most of these mosquitoes are considered nuisance mosquitoes.
- In general, nuisance mosquitoes do not spread viruses that make people sick. The types of mosquitoes that can spread viruses may increase 2 weeks to 2 months after a hurricane, especially in areas that did not flood but received more rainfall than usual.
- In areas with Aedes aegypti mosquitoes and local spread of Zika, chikungunya, or dengue, increased rainfall may result in increased hatching of Ae. aegypti eggs from water-holding containers. People may be at more risk of getting infected with these viruses, and they should take steps to protect themselves from mosquito bites.
- Because people spend more time outside cleaning up after a hurricane or flood, they are more likely to be bitten by nuisance mosquitoes. CDC does not expect to see a substantial increase in diseases spread by mosquitos, but CDC is not able to clearly predict if mosquito-borne diseases will increase in hurricane-affected areas. CDC continues to work with state and territorial health departments to monitor the situations and provide technical assistance as requested in areas impacted by Hurricanes Harvey, Irma, and Maria. CDC will share information with all its partners as it becomes available.
- Large numbers of nuisance mosquitoes can affect recovery efforts. For this reason, local or state mosquito control experts will often take steps to control these mosquitoes.
- Although flooding caused by hurricanes can be severe and an increase in mosquito populations is expected in the coming weeks, CDC does not expect to see a substantial increase in the number of people getting sick from diseases spread by mosquitoes. CDC will work closely with state and local health officials to monitor the situation and take action if necessary.

MOSQUITOES AFTER HURRICANES HARVEY, IRMA, AND MARIA

- Populations of mosquitoes are expected to increase in areas affected by the hurricanes, including Texas, Florida, Puerto Rico, and the US Virgin Islands (USVI).
- At this time, CDC has not received reports of an increase in mosquito-borne diseases in any of the hurricane-affected areas.
- No data are available on the impact of back-to-back hurricanes, but impact is not expected to differ from impact of one severe hurricane.

- CDC continues to work with state and territorial health departments to monitor the situations and provide technical assistance as requested in areas impacted by Hurricanes Harvey, Irma, and Maria. CDC will share information with all its partners as it becomes available.
- CDC is not able to predict if mosquito-borne diseases will increase in hurricane-affected areas.
    - Many areas in the United States have the type of mosquitoes that can become infected with and spread Zika, dengue, and chikungunya (*Ae. aegypti* and *Ae. albopictus*) and West Nile viruses (*Culex spp.*).
    - CDC will maintain and improve our ability to identify and test for Zika and other mosquito-borne diseases.

PREVENT MOSQUITO BITES

The best way to prevent diseases spread by mosquitoes is to protect yourself and your family from mosquito bites.

- Wear long-sleeved shirts and long pants.
- Stay in places with air conditioning and window and door screens to keep mosquitoes outside.
- Treat your clothing and gear with permethrin or buy pre-treated items (except in Puerto Rico, where permethrin is not effective).

Use Environmental Protection Agency (EPA)-registered insect repellents on exposed skin. Use a repellent with one of the following active ingredients: DEET, picaridin, IR3535, oil of lemon eucalyptus, para-menthane-diol, or 2-undecanone.

- See EPA's search tool here.
- Always follow the product label instructions.
- Reapply insect repellent as directed.
- Do not spray repellent on the skin under clothing.
- If you are also using sunscreen, apply sunscreen first and insect repellent second.

For babies and children:

- Dress your child in clothing that covers arms and legs.
- Cover crib, stroller, and baby carrier with mosquito netting.
- See insect repellent recommendations for children below.

Take steps to control mosquitoes inside and outside your home

- After a hurricane or flood, the health department or mosquito control district will often take steps to reduce the mosquito population.
- Residents can take steps to help control mosquitoes in and around their homes to prevent mosquito bites.

DENGUE

- Dengue is a disease caused by any one of four closely related dengue viruses (DENV 1, DENV 2, DENV 3, or DENV 4).
- The viruses are spread to people through the bite of an infected mosquito.
- It is estimated that there are over 100 million cases of dengue worldwide each year.

Dengue after Hurricanes Harvey, Irma, and Maria:

- Before Hurricanes Harvey and Irma, there was no local spread of dengue spread by *Aedes* mosquitoes in Houston or Florida, or other areas affected by flooding.
- Locally spread Zika and dengue have been reported in Puerto Rico and USVI this year. Although the flooding caused by recent hurricanes is severe and we do expect to see an increase the mosquito population in the upcoming weeks, we do not expect to see cases of dengue appear in the affected areas because of the flooding.

WEST NILE

- West Nile is a virus most commonly spread to people by mosquito bites.
- In North America, cases of West Nile virus (WNV) occur during mosquito season, which starts in the summer and continues through fall.
- WNV cases have been reported in all of the continental United States.
- There are no vaccines to prevent or medications to treat WNV. Fortunately, most people infected with WNV do not have symptoms.
- About 1 in 5 people who are infected develop a fever and other symptoms.
- About 1 out of 150 infected people develop a serious, sometimes fatal, illness.
- Though pregnant women are not at higher risk for WNV infection, they should take steps to prevent mosquito bites.

West Nile after Hurricanes Harvey and Irma:

- Cases of West Nile virus have been reported in Texas and Florida this summer.
- Although the flooding caused by Hurricanes Harvey and Irma is severe and we do expect to see an increase the mosquito population in the upcoming weeks, West Nile virus cases are not expected to increase in the affected areas as a result of flooding.

ZIKA

- Zika is a virus spread mostly by the bite of an infected *Aedes* species mosquito (*Ae. aegypti* and *Ae. albopictus*).
- It can also be passed through sex without a condom with an infected person, even if that person does not show symptoms.
- If a pregnant woman is infected with Zika virus, it can be passed to her fetus and potentially cause birth defects, including microcephaly and other severe fetal brain defects.

- Many people infected with Zika virus won't have symptoms or will only have mild symptoms. For those who do have symptoms, they are usually mild and last for several days to a week.
- Signs and symptoms of Zika virus infection include fever, rash, headache, joint pain, conjunctivitis (red eyes), and muscle pain.
- No specific treatment is available for Zika virus disease.
- The best way to prevent Zika and other viruses spread by mosquitoes is to prevent mosquito bites.
- Condoms can reduce the chance of getting Zika from sex.
    - Not having sex eliminates the risk of getting Zika from sex.

Zika after Hurricanes Harvey, Irma, and Maria:

- **Prior to Hurricanes Harvey, Irma, and Maria, Zika outbreaks had occurred throughout the Americas, and in the US territories, Puerto Rico and US Virgin Islands (USVI). Local spread of the virus had been reported in Texas and Florida. For more information, see Areas with Risk of Zika.**
- The types of mosquitoes that spread Zika live in many areas of the United States, including Texas and Florida, and in the US territories, Puerto Rico and USVI.
- On June 2, 2017, the yellow area designation was removed for Miami-Dade County, Florida.
- As of August 29, 2017, CDC, in collaboration with the Texas Department of State Health Services, has updated guidance for people who travel to or live in Brownsville, Texas, to lift the Zika cautionary (yellow) area designation.
- Although the level of risk of Zika virus transmission after a yellow area is removed is not known, it is likely to be low. However, sporadic cases may still occur.
- For this reason, CDC recommends that people living in or traveling to Miami-Dade County, Brownsville, Texas, Puerto Rico, and USVI continue to protect themselves from mosquito-borne illnesses, including Zika virus.
- After the designations were lifted in these areas, before Hurricanes Harvey and Irma, there was no local spread of Zika spread by *Aedes* mosquitoes in Houston or Florida, or other areas in the continental United States affected by flooding. However, in 2017, local spread has been occurring in Puerto Rico and USVI.
- Continental US states: Although the flooding caused by the hurricanes is severe and we do expect to see an increase the mosquito population in the upcoming weeks, we do not expect to see cases of Zika appear in affected areas because of the flooding.

TEXAS

- Hurricane Harvey made landfall along the Middle Texas Coast on August 25, 2017.
- Brownsville, Texas was previously designated as a Zika cautionary (yellow) area, but that designation was lifted on August 29, 2017. This means that there are no longer any travel recommendations related to Zika virus for Brownsville. However, sporadic cases may still occur in Brownsville or the surrounding areas (e.g., Lower Rio Grande Valley). For this reason, CDC recommends that people living in or traveling to Brownsville and the southernmost areas of the state continue to protect themselves from mosquito-borne illnesses, including Zika virus.

- The Texas Department of State Health Services is working with counties that have requested mosquito control assistance to coordinate spraying.
- Updates on mosquito control in Texas can be found at: http://dshs.texas.gov/news/releases/2017/20170906.aspx

FLORIDA

- Hurricane Irma made landfall in the lower Florida Keys on September 10, 2017.
- Miami-Dade County was previously designated as a Zika cautionary (yellow) area, but that designation was removed on June 2, 2017. This means that there are no longer any travel recommendations related to Zika virus for Miami-Dade County, Florida. Although the level of risk of Zika virus transmission after a yellow area is removed is not known, it is likely to be low. However, sporadic cases may still occur. For this reason, CDC recommends that people living in or traveling to Miami-Dade County continue to protect themselves from mosquito-borne illnesses, including Zika virus.
- Mosquito control activities including spraying are occurring in South Florida.

US TERRITORIES

- Puerto Rico and USVI have the type of mosquitoes that can become infected with and spread Zika, dengue, and chikungunya (*Ae. aegypti* and *Ae. albopictus*).
- CDC will continue to work with the Puerto Rico and USVI departments of health as requested.
- Puerto Rico did not see a significant increase in dengue cases after Hurricane Georges in 1998.
- Central America also did not see a significant increase in dengue cases after Hurricane Mitch in 1998.

PUERTO RICO

- Hurricane Irma and Hurricane Maria caused widespread flooding and devastation in Puerto Rico in September, 2017.
- Locally spread cases of Zika and dengue have been reported in Puerto Rico this year.
- No cases of chikungunya have been reported in 2017.
- Puerto Rico did not spray for nuisance mosquitoes or for mosquitoes that spread diseases (like *Ae. aegypti*) after Hurricane Irma.
- CDC is not aware if Puerto Rico will spray for nuisance mosquitoes or for mosquitoes that spread diseases (like *Ae. aegypti*) after Hurricane Maria.

US VIRGIN ISLANDS

- Hurricane Irma and Hurricane Maria caused widespread flooding and devastation in the US Virgin Islands in September, 2017.
- Local cases of Zika and dengue have been reported in USVI in 2017.
- No cases of chikungunya have been reported in 2017.
- USVI did not spray for nuisance mosquitoes or for mosquitoes that spread diseases (like *Ae. aegypti*) after Hurricane Irma.
- USVI officials are preparing a request to FEMA for aerial larvicide application.

For more information about Zika virus, click here: https://www.cdc.gov/zika/about/index.html

For more information about Zika virus and pregnancy, click here: https://www.cdc.gov/zika/pregnancy/index.html

For more information about Zika virus prevention, click here: https://www.cdc.gov/zika/prevention/index.html

CHEMICAL AND OIL EXPOSURES

- Use extreme caution when returning to your area after a flood. Be aware of potential chemical hazards you may encounter during flood recovery. Flood waters may have buried or moved hazardous chemical containers of solvents or other industrial chemicals from their normal storage places.
- If any propane tanks (whether 20-lb. tanks from a gas grill or household propane tanks) are discovered in a previously flooded area, do not attempt to move them yourself. These represent a very real danger of fire or explosion, and if any are found, police or fire departments or your State Fire Marshal's office should be contacted immediately.
- Car batteries, even those in flood water, may still contain an electrical charge and should be removed with extreme caution by using insulated gloves. Avoid coming in contact with any acid that may have spilled from a damaged car battery.
- Containers of dry chemicals that may have become wet due to flooding in your home or garage can be dangerous. When in doubt about how to safely handle these chemicals, contact your local fire department.
- Avoid Oil Spills
    - Crude oil is a mixture of chemicals that could be released into the environment during an emergency such as a hurricane and flood. In flood situations, some parts of the oil will float on water and can be seen as a film on the surface, and other parts will sink to the bottom. Other parts of the oil can become fumes in the air. People can come into contact with these chemicals by getting them on their skin or by breathing them in the air. If you notice oil in the water, stay away from it and contact local authorities or EPA at 1-800-424-8802. Emergency responders and workers should use appropriate clothing and personal protective equipment when working in these hazardous conditions.

- If you have come into contact with a chemical from a spill or accident and feel ill, seek medical attention immediately from a health care professional.
- Your regional poison center is available 24/7 by calling 1-800-222-1222 to help assist you in determining if you should seek medical attention following a potential chemical exposure or for information on chemicals.

- Check with your state and/or local health department and news sources to determine if there any known chemical spills in your area and up to date information on recommendations on how to protect yourself.
- CDC has general information available online regarding chemical emergencies here: (https://emergency.cdc.gov/chemical/overview.asp). Topics discussed include what a chemical emergency is, when to evacuate, when to shelter in place and how to clean yourself following a chemical exposure and handle contaminated clothing.

LANDSLIDES AND MUDSLIDES

- Landslides occur when masses of rock, earth, or debris move down a slope.
- Debris flows, also known as mudslides, are a common type of fast-moving landslide that tends to flow in channels.
- Landslides are caused by disturbances in the natural stability of a slope. They can accompany heavy rains or follow droughts, earthquakes, or volcanic eruptions.
- Mudslides develop when water rapidly accumulates in the ground and results in a surge of water-saturated rock, earth, and debris. Mudslides usually start on steep slopes and can be activated by natural disasters.
- Areas where wildfires or human modification of the land have destroyed vegetation on slopes are particularly vulnerable to landslides during and after heavy rains.

Health threats from landslides and debris flows

In the United States, landslides and debris flows result in 25 to 50 deaths each year. The health hazards associated with landslides and mudflows include:

- Rapidly moving water and debris that can lead to trauma;
- Broken electrical, water, gas, and sewage lines that can result in injury or illness; and
- Disrupted roadways and railways that can endanger motorists and disrupt transport and access to health care.

Some areas are more likely to experience landslides or mudflows, including:

- Areas where wildfires or human modification of the land have destroyed vegetation;
- Areas where landslides have occurred before;
- Steep slopes and areas at the bottom of slopes or canyons;
- Slopes that have been altered for construction of buildings and roads;
- Channels along a stream or river; and
- Areas where surface runoff is directed.

What you can do to protect yourself

Before intense storms and rainfall

- Assume that steep slopes and areas burned by wildfires are vulnerable to landslides and debris flows.
- Learn whether landslides or debris flows have occurred previously in your area by contacting local authorities, a county geologist or the county planning department, state geological surveys or departments of natural resources, or university departments of geology.
- Contact local authorities about emergency and evacuation plans.
- Develop emergency and evacuation plans for your family and business.
- Develop an emergency communication plan in case family members are separated.
- If you live in an area vulnerable to landslides, consider leaving it.

During intense storms and rainfall

- Listen to the radio or watch TV for warnings about intense rainfall or for information and instructions from local officials.
- Be aware of any sudden increase or decrease in water level on a stream or creek that might indicate debris flow upstream. A trickle of flowing mud may precede a larger flow.
- Look for tilted trees, telephone poles, fences, or walls, and for new holes or bare spots on hillsides.
- Listen for rumbling sounds that might indicate an approaching landslide or mudflow.
- Be alert when driving. Roads may become blocked or closed due to collapsed pavement or debris.
- If landslide or debris flow danger is imminent, quickly move away from the path of the slide. Getting out of the path of a debris flow is your best protection. Move to the nearest high ground in a direction away from the path. If rocks and debris are approaching, run for the nearest shelter and take cover (if possible, under a desk, table, or other piece of sturdy furniture).

After a landslide or debris flow

- Stay away from the site. Flooding or additional slides may occur after a landslide or mudflow.

- Check for injured or trapped people near the affected area, if it is possible to do so without entering the path of the landslide or mudflow.
- Listen to the radio or TV for emergency information.
- Report broken utility lines to the appropriate authorities.
- Consult a geotechnical expert (a registered professional engineer with soils engineering expertise) for advice on reducing additional landslide problems and risks. Local authorities should be able to tell you how to contact a geotechnical expert.

RETURNING HOME

Return to your flooded home only after local authorities have told you it is safe to do so.

CLEANING AND SANITIZING YOUR HOME

When returning to your home after a hurricane or flood, be aware that flood water may contain sewage and other hazards. Protect yourself and your family by following these steps:

INSIDE THE HOME

- Keep children and pets out of the affected area until cleanup has been completed.
- Wear personal protective equipment, including rubber boots, rubber gloves, and goggles during cleanup of affected area.
- While cleaning up areas with mold damage, wear a NIOSH-approved N-95 respirator, or one that provides even more protection. Look for N-95 on the package.
- Remove and discard items that cannot be washed and disinfected (such as, mattresses, carpeting, carpet padding, rugs, upholstered furniture, cosmetics, stuffed animals, baby toys, pillows, foam-rubber items, books, wall coverings, and most paper products).
- Remove and discard drywall and insulation that has been contaminated with sewage or flood waters.
- This should include material that are located a foot higher than the high water line.
- Thoroughly clean all hard surfaces (such as flooring, concrete, molding, wood and metal furniture, countertops, appliances, sinks, and other plumbing fixtures) with hot water and laundry or dish detergent.
- Help the drying process by using fans, air conditioning units, and dehumidifiers.
- After completing the cleanup, wash your hands with soap and clean water.
- Wash all clothes worn during the cleanup in hot water and detergent. These clothes should be washed separately from uncontaminated clothes and linens.

- Wash clothes contaminated with flood or sewage water in hot water and detergent. It is recommended that a laundromat be used for washing large quantities of clothes and linens until your onsite wastewater system has been professionally inspected and serviced.
- Seek immediate medical attention if you become injured or ill.

Disinfect toys

Remember that anything that has had contact with floodwater could carry germs. To keep your kids safe, make sure their toys are clean. Some toys cannot be cleaned, particularly those that have been in floodwaters. When in doubt, throw toys out.

- Make a cleaning fluid by mixing 1 cup of bleach in 5 gallons of water and wash off toys carefully with your cleaner.
- If you have dishwasher-safe toys, they can be cleaned in a commercial dishwasher that has a dry cycle or a final rinse that exceeds 113°F for 20 minutes or 122°F for 5 minutes or 162°F for 1 minute.
- Once toys are cleaned, let them air dry.
- Stuffed animals or cloth toys that were wet with floodwater should be thrown out.

See also Reentering Your Flooded Home, Mold Cleanup and Remediation, and Cleaning and Sanitizing With Bleach after an Emergency.

MOLD

After natural disasters such as hurricanes, tornadoes, and floods, excess moisture and standing water contribute to the growth of mold in homes and other buildings. When returning to a home that has been flooded, be aware that mold may be present and may be a health risk for your family.

If there is mold growth in your home, you should clean up the mold and fix any water problem, such as leaks in roofs, walls, or plumbing. Controlling moisture in your home is the most critical factor for preventing mold growth. Keep children and pets out of the affected area until cleanup has been completed.

Detailed information about cleaning up mold is available in the Homeowner's and Renter's Guide to Mold Cleanup After Disasters.

People at Greatest Risk from Mold

- People with asthma, allergies, or other breathing conditions may be more sensitive to mold.
- People with a weakened immune system, such as people receiving treatment for cancer, people who have had an organ or stem cell transplant, and people taking medicines that suppress the immune system, are more likely to get a serious illness from mold.

- If you have a breathing problem like asthma, a weakened immune system, or are pregnant, try not to enter a building with mold damage.
- Children under 12 should not enter a building with mold damage.

Possible Health Effects of Mold Exposure

- People who are sensitive or allergic to mold may experience problems like asthma attacks, wheezing, stuffy nose, and irritated eyes and skin.
- Mold exposure can lead to severe infections in people with a weakened immune system.
- If you or your family members have health problems after exposure to mold, contact your doctor or other health care provider.

Recognizing Mold

You may recognize mold by:

- **Sight.** Are the walls and ceiling discolored, or do they show signs of mold growth or water damage?
- **Smell.** Do you smell a bad odor, such as a musty, earthy smell or a foul stench?

Safely Preventing Mold Growth

- Clean up and dry out the building as quickly as you can.
- Open doors and windows.
- Use fans to dry out the building. Position fans to blow air out doors or windows.
- See the fact sheet for drying out your house, Reentering Your Flooded Home.
- When in doubt, take it out! Remove all porous items that have been wet for more than 48 hours and that cannot be thoroughly cleaned and dried. These items can remain a source of mold growth and should be removed from the home. Porous, non-cleanable items include carpeting and carpet padding, upholstery, wallpaper, drywall, floor and ceiling tiles, insulation material, some clothing, leather, paper, wood, and food.
- Removal and cleaning are important because even dead mold may cause allergic reactions in some people.
- To prevent mold growth, clean wet items and surfaces with detergent and water.
- Homeowners may want to temporarily store items outside of the home until insurance claims can be filed. See recommendations by the Federal Emergency Management Agency (FEMA).

Cleaning Up Mold

To remove mold growth from hard surfaces use commercial products, soap and water, or a bleach solution of no more than 1 cup of household laundry bleach in 1 gallon of water. Follow the manufacturers' instructions for use (see product label). Use a stiff brush on rough surface materials such as concrete.

When removing mold:

- Never mix bleach with ammonia or other household cleaners. Mixing bleach with ammonia or other cleaning products will produce dangerous, toxic fumes.
- Open windows and doors to provide fresh air.
- Wear rubber boots, rubber gloves, and goggles during cleanup of affected area.
- If the area to be cleaned is more than 10 square feet, consult the U.S. Environmental Protection Agency (EPA) guide titled Mold Remediation in Schools and Commercial Buildings. Also available is A Brief Guide to Mold, Moisture, and Your Home.
- Always follow the manufacturer's instructions when using bleach or any other cleaning product.
- For more information on personal safety while cleaning up after a natural disaster, see Response Worker Health and Safety(https://www.cdc.gov/disasters/workers.html).

Protect your nose and mouth against breathing in mold:

Before you enter a building with mold damage, wear at least a NIOSH-approved N-95 respirator, which you can buy at a home supply store. If you plan to spend a lot of time removing moldy belongings or doing work like ripping out moldy drywall, wear a half-face or full-face respirator. Make certain that you follow instructions on the package for fitting the mask respirator tightly to your face. N-95 respirators are only approved for filtering out dust in the air (for example, from sweeping, sawing, and mold removal). This type of respirator will not protect you against chemicals or gases in the air, such as cleaning products or carbon monoxide.

OUTSIDE THE HOME

- Keep children and pets out of the affected area until cleanup has been completed.
- Have your onsite waste-water system professionally inspected and serviced if you suspect damage.
- Wash all clothes worn during the cleanup in hot water and detergent. These clothes should be washed separately from uncontaminated clothes and linens.
- After completing the cleanup, wash your hands with soap and clean water.
- Seek immediate medical attention if you become injured or ill. See wound care information.

SAFE SHELTERING

Follow safe hygiene and diapering recommendations when in a shelter.

In emergency situations, making sure that diaper changing practices remain hygienic is essential to reducing the spread of germs. Even a microscopic amount of fecal matter can contain millions of germs. CDC has developed guidelines and checklists to help parents, childcare providers, emergency

responders, and others learn how to practice safe and germ-free diaper changing in emergency situations.

Emergency shelters should ensure accessibility for persons with disabilities, including people who use wheelchairs or scooters or who have difficulty walking, people who are deaf or hard-of-hearing, and people who are blind or have low vision.

Americans with Disabilities Act Checklist for Emergency Shelters

When planning for older adults, officials must ensure that shelter facilities meet the special needs of this population. For example, shelters must:

- Be accessible to people who need help or certain accommodations to perform routine care or activities of daily living (e.g., to use the bathroom, bathe, dress, groom, or get into and out of bed).
- Be accessible to people who have certain disabilities, such as those who use a wheelchair.
- Include signs and other forms of communication that can be understood by older adults.
- Include energy sources for electricity (i.e., generators), heating, and air conditioning.

AVOID CARBON MONOXIDE POISONING

Carbon monoxide (CO) is an odorless, colorless gas that can cause sudden illness and death if inhaled.

When power outages occur during emergencies such as hurricanes or winter storms, the use of alternative sources of fuel or electricity for heating, cooling, or cooking can cause CO to build up in a home, garage, or camper and to poison the people and animals inside.

Every year, more than 400 people die in the U. S. from accidental CO poisoning.

Exposure to CO can cause loss of consciousness and death. The most common symptoms of CO poisoning are headache, dizziness, weakness, nausea, vomiting, chest pain, and confusion. People who are sleeping or who have been drinking alcohol can die from CO poisoning before ever having symptoms.

Important CO Poisoning Prevention Tips

- Never use a generator, pressure washer, or any gasoline-powered engine inside your home, basement, or garage or less than 20 feet from any window, door, or vent of your home or your neighbor's home.
- When using a generator, use a battery-powered or battery backup CO detector in your home.
- Never use a gas range or oven to heat a home.
- Never leave the motor running in a vehicle parked in an enclosed or partially enclosed space, such as a garage.

- Never run a generator, pressure washer, or any gasoline-powered engine inside a basement, garage, or other enclosed structure, even if the doors or windows are open, unless the equipment is professionally installed and vented. Keep vents and flues free of debris, especially if winds are high. Flying debris can block ventilation lines.
- Never use a charcoal grill, hibachi, lantern, or portable camping stove inside a home, tent, or camper.
- If conditions are too hot or too cold, seek shelter with friends or at a community shelter.
- If CO poisoning is suspected, move to outside air, call 911 or your local Poison Control Center at 1-800-222-1222 or consult a health care professional right away.

Businesses can help ensure your customers' safety by placing important information about protecting oneself from CO poisoning in the direct vicinity of generators they are selling.

POWER OUTAGES AND ELECTRICAL DANGERS

- NEVER touch a fallen power line. Call the power company to report fallen power lines.
- Do not walk or drive through standing water if downed power lines are in the water.
- If you believe someone has been electrocuted, call or have someone else call 911 or emergency medical help.
- After a hurricane, flood or other natural disaster you need to be careful to avoid electrical hazards both in your home and elsewhere.
- Avoid contact with overhead power lines during cleanup and other activities.

If a power line falls across your car while you are driving, stay inside the vehicle and continue to drive away from the line.

- If the engine stalls, do not turn off the ignition.
- Warn people not to touch the car or the line.
- Call or ask someone to call the local utility company and emergency services.
- Do not allow anyone other than emergency personnel to approach your vehicle.

If electrical circuits and electrical equipment have gotten wet or are in or near water, turn off the power at the main breaker or fuse on the service panel.

- Do not enter standing water to access the main power switch.
- Call an electrician to turn it off.

Never turn power on or off yourself or use an electric tool or appliance while standing in water.

- Do not turn the power back on until electrical equipment has been inspected by a qualified electrician.

- All electrical equipment and appliances must be completely dry before returning them to service.
- Have a certified electrician check these items if there is any question.

If you see frayed wiring or sparks when you restore power, or if there is an odor of something burning but no visible fire, you should immediately shut off the electrical system at the main circuit breaker.

Consult your utility company about using electrical equipment, including power generators.

- Do not connect generators to your home's electrical circuits without the approved, automatic-interrupt devices.
- If a generator is on line when electrical service is restored, it can become a major fire hazard and it may endanger line workers helping to restore power in your area.

If you believe someone has had electric shock take the following steps:

- Look first. Don't touch. The person may still be in contact with the electrical source. Touching the person may pass the current through you.
- Call or have someone else call 911 or emergency medical help.
- Turn off the source of electricity if possible. If not, move the source away from you and the affected person using a non-conducting object made of cardboard, plastic or wood.
- Once the person is free of the source of electricity, check the person's breathing and pulse. If either has stopped or seems dangerously slow or shallow, begin cardiopulmonary resuscitation (CPR) immediately.
- If the person is faint or pale or shows other signs of shock, lay him or her down with the head slightly lower than the trunk of the body and the legs elevated.
- Don't touch burns, break blisters, or remove burned clothing. Electrical shock may cause burns inside the body, so be sure the person is taken to a doctor.

IMPACT OF POWER OUTAGE ON VACCINE STORAGE

In areas where vaccine supplies are affected by temporary power outages, the guidance developed for providers during the 2003 Northeast Power Outage may be helpful:

- Do not open freezers and refrigerators until power is restored.
- Most refrigerated vaccines are relatively stable at room temperature for limited periods of time. The vaccines of most concern are MMR and Varivax, which are sensitive to elevated temperatures.
- Monitor temperatures; don't discard vaccines that are in refrigerators or freezers affected by temporary power outages; don't administer affected vaccines until you have discussed with public health authorities.

If the power outage is ongoing:

- Keep all refrigerators and freezers closed. This will help to conserve the cold mass of the vaccines.
- Continue to monitor temperatures if possible. Do not open units to check temperatures during the power outage. Instead, record the temperature as soon as possible after the power is restored, and the duration of the outage. This will provide data on the maximum temperature and maximum duration of exposures to elevated temperatures.
- If alternative storage with reliable power sources are available (i.e., hospital with generator power), transfer to that facility can be considered. If transporting vaccine, measure the temperature of the refrigerator(s) and freezer(s) when the vaccines are removed. If possible transport the vaccine following proper cold chain procedures for storage and handling or try to record the temperature the vaccine is exposed to **during transport.**

When power has been restored:

1. Record the temperature in the unit as soon as possible after power has been restored. Continue to monitor the temperatures until they reach the normal 2–8 degrees Celsius range in the refrigerator, or -15 degrees C or less in the freezer. Be sure to record the duration of increased temperature exposure and the maximum temperature observed.
2. If you receive vaccine from your state or local health department, they may be contacting you with guidance on collecting information on vaccine exposed to extreme temperatures.
3. If you are concerned about the exposure or efficacy of any of your vaccine stock, do not administer the vaccine until you have consulted your state or local health department.
4. Keep exposed vaccine separated from any new product you receive and continue to store at the proper temperature if possible.
5. Do not discard any vaccine that might have been exposed to increased or fluctuating temperatures. We will be working with the vaccine manufacturers to determine which vaccines may be viable.

For additional information about vaccine storage during a power outage, see the guidance provided by the CDC National Immunization Program or contact your state or local health department.

STAY SAFE IN EXTREME HEAT

Be aware of yours and others' risk for heat stroke, heat exhaustion, heat cramps and fainting. To avoid heat stress, you should follow CDC's heat safety tips. Stay Cool, Stay Hydrated, and Stay Informed.

Some people are more at risk of developing a heat-related illness than others. Be sure to check on people in these groups and follow tips to keep them safe.

- Older Adults (Aged 65+)
- **People with Diabetes**
- People with **other** Chronic Medical Conditions
- Outdoor Workers
- Infants & Children
- Low Income Households or households without air conditioning
- Athletes
- Pets are also at risk.

Heat stroke is the most serious heat illness. It happens when the body can't control its own temperature and its temperature rises rapidly. Sweating fails and the body cannot cool down. Body temperature may rise to 106°F or higher within 10 to 15 minutes. Heat stroke can cause death or permanent disability if emergency care is not given. Visit Warning Signs and Symptoms of Heat-Related Illness for more information on how to recognize symptoms and what to do if someone develops a heat-related illness.

For more information on heat-related illnesses and treatment, see the CDC Extreme Heat Web site. Information for workers can be found on the NIOSH heat stress web page.

DRINK CLEAN, SAFE WATER AND EAT SAFE FOOD

PREPARING FOR FOOD AND WATER NEEDS

Follow these steps to make sure you and your family have enough safe food and water (for drinking, cooking, bathing, etc.) available in the event of a disaster or emergency.

Prepare an Emergency Food Supply

A disaster can easily disrupt the food supply at any time, so plan to have at least a 3-day supply of food on hand. Keep foods that:

- Have a long storage life
- Require little or no cooking, water, or refrigeration, in case utilities are disrupted
- Meet the needs of babies or other family members who are on special diets
- Meet pets' needs
- Are not very salty or spicy, as these foods increase the need for drinking water, which may be in short supply

How to Store Emergency Food

When storing food, it is not necessary to buy dehydrated or other types of emergency food.

- Check the expiration dates on canned foods and dry mixes. Home-canned food usually needs to be thrown out after a year.
- Use and replace food before its expiration date.

Certain storage conditions can enhance the shelf life of canned or dried foods. The ideal location is a cool, dry, dark place. The best temperature is 40° to 70°F.

- Store foods away from ranges or refrigerator exhausts. Heat causes many foods to spoil more quickly.
- Store food away from petroleum products, such as gasoline, oil, paints, and solvents. Some food products absorb their smell.
- Protect food from rodents and insects. Items stored in boxes or in paper cartons will keep longer if they are heavily wrapped or stored in waterproof, airtight containers.

Preparing Food

Preparing food after a disaster or emergency may be difficult due to damage to your home and loss of electricity, gas, and water. Having the following items available will help you to prepare meals safely:

- Cooking utensils
- Knives, forks, and spoons
- Paper plates, cups, and towels
- A manual can- and bottle-opener
- Heavy-duty aluminum foil
- Propane gas or charcoal grill; camp stove
- Fuel for cooking, such as charcoal. (CAUTION: Only use charcoal grills or camp stoves outside of your home to avoid smoke inhalation and carbon monoxide poisoning.)

Prepare an Emergency Water Supply

- Store at least 1 gallon of water per day for each person and each pet. Consider storing more water than this for hot climates, for pregnant women, and for people who are sick.
- Store at least a 3-day supply of water for each person and each pet. Try to store a 2-week supply if possible.
- Observe the expiration date for store-bought water; replace other stored water every 6 months.
- Store a bottle of unscented liquid household chlorine bleach to disinfect your water and to use for general cleaning and sanitizing. Try to store bleach in an area where the average temperature stays around 70°F (21°C). Because the amount of active chlorine in bleach decreases over time due to normal decay, consider replacing the bottle each year.

Water Containers (Cleaning and Storage)

Unopened commercially bottled water is the safest and most reliable emergency water supply.

Use of food-grade water storage containers, such as those found at surplus or camping supply stores, is recommended if you prepare stored water yourself.

1. Before filling with safe water, use these steps to clean and sanitize storage containers:
2. Wash the storage container with dishwashing soap and water and rinse completely with clean water.
3. Sanitize the container by adding a solution made by mixing 1 teaspoon of unscented liquid household chlorine bleach in one quart of water.
4. Cover the container and shake it well so that the sanitizing bleach solution touches all inside surfaces of the container.
5. Wait at least 30 seconds and then pour the sanitizing solution out of the container.
6. Let the empty sanitized container air-dry before use OR rinse the empty container with clean, safe water that already is available.

Avoid using the following containers to store safe water:

- Containers that cannot be sealed tightly
- Containers that can break, such as glass bottles
- Containers that have ever held toxic solid or liquid chemicals, such as bleach or pesticides
- Plastic or cardboard bottles, jugs, and containers used for milk or fruit juices

For proper water storage:

- Label container as "drinking water" and include storage date.
- Replace stored water that is not commercially bottled every six months.
- Keep stored water in a place with a fairly constant cool temperature.
- Do not store water containers in direct sunlight.
- Do not store water containers in areas where toxic substances such as gasoline or pesticides are present.

AFTER THE STORM

Food may not be safe to eat during and after an emergency. Safe water for drinking, cooking, and personal hygiene includes bottled, boiled, or treated water. Your state, local, or tribal health department can make specific recommendations for boiling or treating water in your area.

Food: Throw away food that may have come in contact with flood or storm water, perishable foods, and those with an unusual odor, color, or texture. When in doubt, throw it out.

Water: Do not use water you suspect or have been told is contaminated to wash dishes, brush your teeth, wash and prepare food, wash your hands, make ice, or make baby formula.

FOOD

Foodborne illness, or food poisoning, is a risk from food contaminated from flood water and from perishable food not held at a safe temperature due to power outages. If foods of animal origin, especially raw meat and poultry, have not been held at a safe temperature, germs already present can grow to high numbers. Other foods not held at the right temperature can also spoil.

Do the following with food and containers that may have had contact with flood or storm water.

Throw away the following foods:

- Food that has an unusual odor, color, or texture. When in doubt, throw it out.
- Perishable foods (including meat, poultry, fish, eggs and leftovers) in your refrigerator when the power has been off for 4 hours or more.
- Canned foods or food containers that are bulging, opened, or damaged. Throw away the food if the container spurts liquid or foam when you open it or the food inside is discolored, moldy, or smells bad.
- Food not in packages or cans.
- Packaged food: Throw away food containers with screw-caps, snap-lids, crimped caps, twist caps, flip tops, and snap-open tops, as well as home-canned foods because they cannot be disinfected. Throw away food in cardboard containers, including juice/milk/baby formula boxes.

Thawed food that contains ice crystals can be refrozen or cooked. Freezers, if left unopened and full during a power outage, will keep food safe for 48 hours (24 hours if half full).

How to reuse commercially prepared cans and retort pouches (like flexible, shelf-stable juice and seafood packages):

- Remove labels if they are removable.
- Brush or wipe away dirt or silt.
- Wash cans and pouches with soap and water, using hot water if available.
- Rinse cans and pouches with water that is safe for drinking, if available.
- Sanitize cans and pouches in one of two ways. 1.) Place them in a solution of 1 cup (8 ounces/250 milliliters) of bleach in 5 gallons of water for 15 minutes. OR 2.) Submerge in a pot of water, bring to a boil, and continue boiling for 2 minutes.
- Re-label cans or pouches with a marker. Include the expiration date.
- Use food in reconditioned cans or pouches as soon as possible.

Store Food Safely

- While the power is out, keep the refrigerator and freezer doors closed as much as possible.

Feeding infants and young children

- Breastfed infants should continue breastfeeding. For formula-fed infants, use ready-to-feed formula if possible. If using ready-to-feed formula is not possible, it is best to use bottled water to prepare powdered or concentrated formula when your tap water is unsafe. If bottled water is not available, check with local authorities to find the status of your drinking water to see if boiling it will make it safe to drink. Use treated water to prepare formula only if you do not have bottled or boiled water.
- If water is contaminated with a chemical, boiling it will not remove the chemical or make it safe to consume.
- If you prepare formula with boiled water, let the formula cool sufficiently before giving it to an infant. Put a couple drops of formula on the back of your hand to see if it is too hot.
- Clean feeding bottles with bottled, boiled, or treated water before each use. Throw out bottle nipples or pacifiers that have been in contact with flood waters.
- Wash your hands before preparing formula and before feeding an infant. You can use alcohol-based hand sanitizer for sanitizing your hands if water is not available for handwashing.

Clean and sanitize food-contact surfaces

Throw out wooden cutting boards, baby bottle nipples, and pacifiers if they have come into contact with flood waters because they cannot be properly sanitized. Clean and sanitize food-contact surfaces in a four-step process:

1. Wash with soap and warm, clean water.
2. Rinse with clean water.
3. Sanitize by immersing for 1 minute in a solution of 1 cup (8 ounces or 250 milliliters) of chlorine bleach (5.25%, unscented) in 5 gallons of clean water.
4. Allow to air dry.

Note: Do not use your fireplace for cooking until the chimney has been inspected for cracks and damage. Sparks may escape into your attic through an undetected crack and start a fire.

WATER

Safe Drinking Water

- After an emergency, especially after flooding, drinking water may not be available or safe to drink for personal use.
- Do not use water you suspect or have been told is contaminated to wash dishes, brush your teeth, wash and prepare food, make ice, or make baby formula.
- Alcohol dehydrates the body, which increases the need for drinking water.
- Floods and other disasters can damage drinking water wells and lead to aquifer and well contamination. Flood waters can contaminate well water with livestock waste, human sewage, chemicals, and other contaminants which can lead to illness when used for drinking, bathing, and other hygiene activities.

Make Water Safe

Water often can be made safe to drink by boiling, adding disinfectants, or filtering.

IMPORTANT: Water contaminated with fuel or toxic chemicals will not be made safe by boiling or disinfection. Use a different source of water if you know or suspect that water might be contaminated with fuel or toxic chemicals.

Boil Water:

If you don't have safe bottled water, you should **boil water** to make it safe. Boiling is the surest method to make water safer to drink by killing disease-causing organisms, including viruses, bacteria, and parasites.

You can improve the flat taste of boiled water by pouring it from one clean, disinfected container to another and then allowing it to stand for a few hours, OR by adding a pinch of salt for each quart or liter of boiled water.

If the water is cloudy:

- Filter it through a clean cloth, paper towel, or coffee filter OR allow it to settle.
- Draw off the clear water.
- Bring the clear water to a rolling boil for one minute (at elevations above 6,500 feet, boil for three minutes).
- Let the boiled water cool.
- Store the boiled water in clean sanitized containers with tight covers.

If the water is clear:

- Bring the clear water to a rolling boil for one minute (at elevations above 6,500 feet, boil for three minutes).
- Let the boiled water cool.
- Store the boiled water in clean sanitized containers with tight covers.

Disinfectants:

If you don't have clean, safe, bottled water and if boiling is not possible, you often can make water safer to drink by using a disinfectant, such as unscented household chlorine bleach, iodine, or chlorine dioxide tablets. These can kill most harmful organisms, such as viruses and bacteria. However, only chlorine dioxide tablets are effective in controlling more resistant organisms, such as the parasite Cryptosporidium. If the water is contaminated with a chemical, adding a disinfectant will not make it drinkable.

To disinfect water:

Bleach comes in different concentrations. Make sure you know the concentration of bleach you are using before using to disinfect drinking water. It should be on the label.

- Clean and disinfect water containers properly before each use. Use containers that are approved for water storage. Do not use containers previously used to store chemicals or other hazardous materials.
- Filter water through a clean cloth, paper towel, or coffee filter OR allow it to settle, then draw off the clear water.

When using 5-6% unscented liquid household chlorine bleach:

- Add a little less than 1/8 teaspoon (8 drops or about 0.5 milliliters) for each gallon of clear water (or 2 drops of bleach for each liter or each quart of clear water).
- If you do not have clear water or are not able to filter the water to make it clear, add a little less than ¼ teaspoon (16 drops, or about 1 milliliter) of bleach for each gallon of cloudy water (or 4 drops of bleach for each liter or each quart of cloudy water). Stir the mixture well.
- Let it stand for at least 30 minutes before using.
- Store the disinfected water in clean, disinfected containers with tight covers.

When using 8.25% unscented liquid household chlorine bleach:

- Add a little less than 1/8 teaspoon (6 drops or about 0.5 milliliters) of unscented liquid household chlorine (8.25%) bleach for each gallon of clear water (or 2 drops of bleach for each liter or each quart of clear water).
- If you do not have clear water or are not able to filter the water to make it clear, add 12 drops (about 1 milliliter) of bleach for each gallon of cloudy water (or 3 drops of bleach for each liter or each quart of cloudy water).

Filters:

Many portable water filters can remove disease-causing parasites such as *Cryptosporidium* and *Giardia* from drinking water.

- If you are choosing a portable water filter, try to pick one that has a filter pore size small enough to remove both bacteria and parasites. Most portable water filters do not remove bacteria or viruses.
- Carefully read and follow the manufacturer's instructions for the water filter. After filtering, add a disinfectant such as iodine, chlorine, or chlorine dioxide to the filtered water to kill any viruses and remaining bacteria.

Water Treatment Resources:

To learn more about water filters and treatments that can remove microorganisms such as viruses, bacteria, and parasites (such as Cryptosporidium), see the following resources:

- Making Water Safe in an Emergency
- A Guide to Water Filters
- A Guide to Drinking Water Treatment and Sanitation for Backcountry and Travel Use covers information on the effectiveness of various water treatment methods.
- A Guide to Commercially-Bottled Water and Other Beverages
- Emergency Disinfection of Drinking Water

Finding Emergency Water Sources

Alternative sources of clean water can be found inside and outside the home. DO NOT DRINK water that has an unusual odor or color, or that you know or suspect might be contaminated with fuel or toxic chemicals; use a different source of water.

The following are possible sources of water:

- Water from your home's water heater tank (part of your drinking water system, not your home heating system)
- Melted ice cubes made with water that was not contaminated
- Water from your home's toilet tank (not from the bowl), if it is clear and has not been chemically treated with toilet cleaners such as those that change the color of the water
- Liquid from canned fruit and vegetables
- Water from swimming pools and spas can be used for personal hygiene, cleaning, and related uses, but not for drinking.

Listen to reports from local officials for advice on water precautions in your home. It may be necessary to shut off the main water valve to your home to prevent contaminants from entering your piping system.

Outside the Home:

Water from sources outside the home must be treated as described in **Make Water Safe**. These include:

- Rainwater
- Streams, rivers, and other moving bodies of water
- Ponds and lakes
- Natural springs

Unsafe Water Sources

Never use water from the following sources:

- Radiators
- Hot water boilers (part of your home heating system)

- Water beds (fungicides added to the water and/or chemicals in the vinyl may make water unsafe for use)

Private Drinking Water Wells

Floods and other disasters can damage or contaminate wells. Dug wells, bored wells, and other wells less than 50 feet deep are more likely to be contaminated, even if damage is not apparent.

- After a disaster, it is safest to drink bottled water until you are certain that your water is free of contaminants and safe to drink.
- If extensive flooding has occurred or you suspect that the well may be contaminated, DO NOT drink the water. Use a safe water supply like bottled or treated water.
- Contact your local, state, or tribal health department for specific advice on wells and testing.

IMPORTANT: Fuel and other chemical releases and spills are common during floods.

- Water contaminated with fuel or toxic chemicals will **not** be made safe by boiling or disinfection. Until you know the water is safe, use bottled water or some other safe supply of water.
- If you suspect your water has fuel or chemical contamination, contact your local health department for specific advice.

For more information: Emergency Treatment for Wells

MEDICATIONS

Some drugs require refrigeration to keep their strength, including many liquid drugs.

- When the power is out for a day or more, throw away any medication that should be refrigerated, unless the drug's label says otherwise.
- If a life depends on the refrigerated drug, but the medications have been at room temperature, use them only until a new supply is available.
- Replace all refrigerated drugs as soon as possible.

Resources for people with chronic disease or disability

PROTECT YOURSELF FROM AIR POLLUTION

CDC defers to state health authorities and EPA regarding air pollution in Texas following Hurricane Harvey and in Florida, South Carolina, and Georgia following Hurricane Irma. We have not been involved in air sampling and therefore cannot address specific risks.

After a major storm, burning of debris, chemical releases, and other incidents can lead to poor air quality. Individuals with asthma, COPD, or heart disease and infants and children are most at risk from exposure to air pollution, but everyone can experience effects like eye, lung or throat irritation.

When news reports the EPA Air Quality Index, or other public announcements warn you that levels are high:

- Reduce the amount of time you spend outside and spend more time indoors, where pollution levels are usually lower.
- If you are cleaning up after storm damage try to do indoor work when outdoor air pollution is bad and do outdoor work when pollution levels are lower, usually in the morning and evening.
- Choose easier outdoor activities (like walking instead of running) so you don't breathe as hard.
- Avoid busy roads and highways where air pollution is usually worse because of emissions from cars and trucks.

Odor:

An odor is caused by a substance in the air that you can smell. Odors, or smells, can be either pleasant or unpleasant. In general, most substances that cause odors in the outdoor air are not at levels that can cause serious injury, long-term health effects, or death. However, odors may affect your quality of life and sense of well-being.

Not everyone reacts to environmental odors the same way. In general, if you are young or female, you may be more sensitive to odors. If you don't smoke, you are usually more sensitive to odors than smokers. If you suffer from depression and anxiety disorders, or have migraines, allergies, asthma, and other chronic lung conditions, you may feel worse when you smell unpleasant odors over a long time.

You may have signs and symptoms when exposed to environmental odors, but the symptoms usually go away when the odor is gone. The most common symptoms from environmental odors are headache and nausea.

You can reduce your exposure to odors by

- Exercising indoors during days with more environmental odors
- Staying indoors when your allergies, asthma, and/or chronic lung problems are acting up
- Leaving the area for a few hours if possible

For more information about environmental odors, please contact the Agency for Toxic Substances and Disease Registry (ATSDR) at 1-800-CDC-INFO (236-4636) or visit the environmental odors website: www.atsdr.cdc.gov/odors

COPING WITH DISASTER

SAMHSA's Disaster Distress Hotline: 1-800-985-5990 (TTY for deaf/hearing impaired: 1-800-846-8517) or text TalkWithUs to 66746

It is natural to feel stress, anxiety, grief, and worry during and after a disaster. Everyone will react differently and your own feelings will change throughout the emergency response. Notice and accept how you feel. Taking care of your emotional health during an emergency will help you think clearly and

react to the urgent needs to protect yourself and your family during an emergency. Self-care during an emergency will help your long-term healing.

Look out for these common signs of distress:

- Feelings of shock, numbness, and disbelief
- Changes in energy and activity levels
- Difficulty concentrating
- Changes in appetite
- Sleeping problems
- Nightmares and upsetting thoughts and images
- Feeling anxious or fearful
- Physical reactions, such as headaches, body pains, stomach problems, and skin rashes
- Chronic health problems can get worse
- Changes in use of alcohol, tobacco, or other drugs
- Anger or short-temper

If you experience these feelings or behaviors for several days in a row and are unable to carry out normal responsibilities because of them, seek professional help.

Take the following steps to cope with a disaster:

- Stay informed-When you feel that you are missing information, you may become more stressed or anxious. Watch, listen to, or read the news for updates from officials. Be aware that there may be rumors during a crisis. Turn to reliable sources of information
- Take care of your body. Eat healthy well-balanced meals, exercise regularly, get plenty of sleep, and **avoid alcohol, tobacco and other drugs.** Learn more about wellness strategies for mental health.
- Take breaks- Make time to unwind and remind yourself that strong feelings will fade. Take breaks from watching, reading, or listening to news stories. It can be upsetting to hear about the crisis and see images repeatedly. Try to do some other activities you enjoy to return to your normal life and check for updates between breaks.
- Connect with others- Share your concerns and how you are feeling with a friend or family member. Maintain healthy relationships and build a strong support system.
- **Seek help when needed-** If distress is impacting activities of your daily life for several days or weeks, talk to a clergy member, counselor, or doctor or contact the **SAMHSA helpline**.
    - Call 1-800-985-5990 ; TTY for deaf/hearing impaired: 1-800-846-8517
    - Text TalkWithUs to 66746.
    - Spanish speakers in the US can call 1-800-985-5990 or text HÁBLANOS to 66746.
    - Spanish speakers in Puerto Rico or the US Virgin Islands can call or text HÁBLANOS to 1-212-461-4635.

Helping Children Cope

Children and youth may also have a difficult time during or after an emergency. Some young people react right away, while others may show signs of difficulty much later. Take time to talk to your children about the disaster, limit their exposure to media coverage of the event, including social media, and as soon as possible, return to and maintain a healthy routine.

SAMHSA guide for parents, caregivers, and teachers

Children may not say how they are feeling during a crisis. Explain the situation, answer questions, and reassure them they are loved.

Children are less likely to say that they are feeling stressed but will show signs through their behaviors. Infants and young children may cry more than usual, want to be held more, and become fearful about being separated from their parent/caregiver. Adolescents and teenagers may deny that they are upset or may do more risky things.

The following are some ways to help children cope:

- Set a good example. Take care of yourself, including exercising and practicing healthy eating habits.
- Encourage children to ask questions. Get down at eye level and speak in a calm, gentle voice using words they can understand.
- Maintain a strong connection and show them they are loved.
- Listen for any rumors children might hear at school or on social media and help explain the correct information to them.
- Tell children it is normal to be upset. Let them know that it's not their fault.

VULNERABLE GROUPS

PREGNANT WOMEN

After a hurricane many people are affected, here are some tips on how to protect yourself and your baby.

If you do get sick, talk with a healthcare provider right away.

- Explain that you are pregnant or think you might be pregnant.
- Some infections might harm your growing baby. The sooner you get the care you need, the better.
- While you are sick, drink plenty of clean water and follow the doctor or healthcare provider's orders.
- Drinking lots of clean water and resting is very important for all pregnant women, especially when they are sick.

Before you start taking any medicines, even ones that you can buy at the store, talk with a healthcare provider.

- Make sure to tell the doctor or nurse that you are pregnant or might be pregnant.
- Some medicines are not good for women to take when they are pregnant, but others are okay.
- If you are already taking a medicine, talk to your doctor or healthcare provider before stopping the medicine.

- Using generators, kerosene heaters, grills, or camp stoves indoors can lead to carbon monoxide poisoning. Never use a generator, pressure washer, or any gasoline-powered engine inside your home, basement, or garage or less than 20 feet from any window, door, or vent.
- When using a generator, use a battery-powered or battery backup carbon monoxide detector in your home.
- Carbon monoxide is a gas with no color or smell. It is a poison to you and your baby. If you breathe it, it can make you very sick. It can even kill you. Carbon monoxide is a poison for anyone, whether pregnant or not.
- If you've breathed carbon monoxide, you might feel like throwing up or feel very tired.
- If you are having problems and think you were exposed to carbon monoxide, you should tell a doctor or nurse.

If possible, do not touch or walk in flood water.

- If you do touch the water, make sure to use soap and clean water to wash the parts of your body that came in contact with the water.
- Do not swallow any of the flood water and be careful to keep it away from your mouth.
- If you feel sick in any way, talk to a doctor or nurse right away.
- Remember to explain that you are pregnant or think you might be pregnant.

If you are pregnant, you should follow steps to prevent mosquito bites to reduce your risk for illnesses spread by mosquitoes.

- Wear long-sleeved shirts and long pants.
- Stay and sleep in places with air conditioning or that use window and door screens.
- Use EPA-registered insect repellents with one of the following active ingredients:
- DEET, picaridin, IR3535, oil of lemon eucalyptus, para-menthane-diol, or 2-undecanone
- Once a week, empty and scrub, turn over, cover, or throw out items that hold water, such as trash containers, tires, buckets, toys, planters, flowerpots, birdbaths or pools.

Stress can cause problems like having your baby come too soon or having a baby that is under weight. It is important to choose healthy ways to deal with your stress.

- Understand that the stress you are feeling is normal.
- Get plenty of rest – it is important for you and your baby.
- Find healthy ways to relax. Taking just a few minutes a couple times during the day to close your eyes in a quiet place can help. Reading, listening to music, or writing in a journal can also help you to relax.
- Avoid the urge to drink alcohol, smoke or take drugs as ways of coping with stress.
- Talk to friends, family members, or clergy for comfort and share your experiences and feelings with them.
- If you feel like you can't deal with your stress or that your friends or family can't help, talk to a counselor, doctor or nurse.

For more information about what you have read on this form please call Mother to Baby at 1-866-626-6847.

BREASTFEEDING MOTHERS

Breastfeeding is recommended for optimal infant nutrition. Breastfeeding remains the best infant feeding option in a natural disaster situation. Even when experiencing diarrhea, food-borne illness, or extreme stress, breastfeeding mothers continue to produce ample milk for their babies.

Women and health professionals who need additional information about the effects of exposures, such as stress, related to a disaster on pregnancy or breastfeeding can call the Organization of Teratology Information Specialists (OTIS) at 1-866-626-OTIS or 1-866-626-6847.

INFANTS

If you are away from your home, there are steps you can take to help your baby sleep safely. To reduce the risk of sudden infant death syndrome (also known as SIDS) and other sleep-related causes of infant death, take the following actions:

- Place your baby on his or her back for all sleep times—for naps and at night.
- Use a firm sleep surface designed for babies, such as a mattress in a safety-approved crib or portable crib, covered by a fitted sheet.
- Have the baby share your room, not your bed. Your baby should not sleep on an adult bed, cot, air mattress or couch, or on a chair alone, with you, or with anyone else.
- Keep soft objects, such as pillows and loose bedding, out of your baby's sleep area.
- Do not smoke or allow smoking around your baby.
- Keep any available medical and immunization records with you, if possible.
- **Infants are among those most at risk from exposure to air pollution, but everyone can experience effects like eye, lung or throat irritation.**
- **Infants and young children may cry more than usual, want to be held more, and become fearful about being separated from their parent/caregiver.**

- **See 'Feeding Infants and Young Children' section above in 'Food' section for safe feeding tips.**

CHILDREN

- Children may be very frightened and need help coping after a storm.
- After a storm, help children to understand that they are safe and secure by talking, playing and doing other family activities with them.
- Visit nctsn.org/trauma-types/natural-disasters for more ideas on how to reassure children they are safe after a major storm.
- Use tips to keep children safe in the aftermath.
- Prevent children from playing in or around floodwaters. It doesn't take long or much water for children to drown. Learn more online at www.ready.gov/floods.
- Talk to your children about where you are evacuating, explain that you are doing so to keep them safe
- If you are evacuating, make sure you take your and your family's meds
- If you are separated from your child, make sure he or she knows how to get in touch with you
- Make sure your child's emergency contact info is up to date with their school
- Floods pose special danger to children. Watch for dangerous situations and learn how to keep kids safe.
- Never leave young children alone or allow them to play in damaged buildings or in areas that might be unsafe.
- **Young children may cry more than usual, want to be held more, and become fearful about being separated from their parent/caregiver.**
- Children may be afraid to sleep alone and may want to sleep with a parent or another person. Be as flexible as you can.
- Children will feel more secure if you can stick to a routine as much as possible - eat/sleep at the same time as always.
- Make sure flood-damaged surfaces are disinfected to protect your children from exposure to toxins.
- Some children may be quiet or withdrawn. Others may become upset easily, cry frequently, and/or become angry. Encourage children to talk.
- Children with **special health care needs such as** autism spectrum disorder may have difficulties with changes in routine - help them anticipate changes/tell them what might happen. It may be helpful to use stories.
- Parents spending much of their time cleaning up and/or rebuilding their lives and homes may cause children to feel neglected. Involve them. This will build life skills.
- Keep any available medical and immunization records with you, if possible.
- **Children are among those most at risk from exposure to air pollution, but everyone can experience effects like eye, lung or throat irritation.**

- **See 'Feeding Infants and Young Children' section above in 'Food' section for safe feeding tips.**

OLDER ADULTS

Keep a list of medications, vaccination records, allergies, special equipment **such as oxygen, hearing aids, etc.**, names and numbers of doctors, pharmacists and family members along with eyeglasses, medications and walking aids, such as a cane or walker. Have these items ready to take with you if you need to evacuate.

Friends, family and neighbors should check on older adults to make sure they are okay and getting the assistance they need.

Older adults physiologically do not adjust as well as well as young people to sudden changes in temperature. They are more likely to have chronic medical conditions and take prescription medicines that affect the body's ability to control its temperature or sweat.

Planning considerations when preparing for and protecting older adults in an emergency.

- Use shelter intake procedures to identify vulnerable older adults; the shelter intake process can be an effective way for emergency management officials to identify older adults in the community who may need special assistance due to a physical or cognitive impairment.
- Capture information on older adults in shelters: demographics including reliance on caregivers, prevalence of chronic conditions including dementia and Alzheimer's disease, functional and access needs, and proportion that rely on services through organizations for independence.
- Shelter facilities should meet the needs of this population, such as accessible to people who need help or certain accommodations to perform routine care or activities of daily living (e.g., to use the bathroom, bathe, dress, groom, or get into and out of bed), accessible to people who have certain disabilities, such as those who use a wheelchair or walker, and include signs and other forms of communication that can be understood by older adults.

More resources:

https://www.cdc.gov/phpr/documents/aging.pdf

https://www.cdc.gov/aging/emergency/planning_tools/planning_guides.htm

https://www.cdc.gov/disasters/extremeheat/older-adults-heat.html

PEOPLE WITH DISABILITIES

- Helping someone in wheelchair? They may be able to transfer themselves. Be respectful of their independence.
- A car battery can charge an electric wheelchair during power outage. More tips for people with disabilities.

- If someone is helping you shelter because you have a disability, explain how they can best assist you.
- Always ask a person with a disability how you can best assist them to shelter or cope.
- **Children and adults with autism spectrum disorder may have difficulties with changes in routine - help them anticipate changes/tell them what might happen. It may be helpful to use stories.**

PEOPLE WITH CHRONIC ILLNESS

- Resources for people with blood disorders https://www.cdc.gov/ncbddd/disasters/blood.html
- **Resources for people with diabetes: https://www.cdc.gov/diabetes/ndep/people-with-diabetes/emergency.html**
- Resources for people with other chronic conditions: https://www.cdc.gov/disasters/chronic.html
- Resources for people with epilepsy and seizure disorders: https://www.cdc.gov/epilepsy/emergency/index.htm
- Resources for people with asthma: https://www.cdc.gov/disasters/asthma_control.html

PET SAFETY

CDC recommends the following guidance regarding Pet Safety in Emergencies:

- Make a Plan - Disasters can happen without warning, so be prepared for the event.
- Sheltering in Place - When sheltering at home with your pet, make sure the room chosen is pet-friendly
- If you need to evacuate, contact your local emergency management office and ask if they offer accommodations for owners and their pets.
- If accommodations are needed for your pet(s):
    - Contact local veterinary clinics, boarding facilities, and local animal shelters. Visit the Humane Society website to find a shelter in your area. .
    - Contact family or friends outside the evacuation area.
    - Contact a pet-friendly hotel, particularly along evacuation routes.
- Prepare a pet disaster kit - prepare a disaster kit for your pet(s), so evacuation will go smoothly for your entire family. Ask your veterinarian for help putting it together.
- Protect yourself from injury and illness - disasters are stressful for humans and pets alike. Practice safe handling of your pet, because your pet may behave differently during a stressful situation.

- Diseased pets can transmit to people during a natural disaster - natural disasters can contribute to the transmission of some diseases. Exposure to inclement weather conditions, stagnant water, wildlife or unfamiliar animals, and overcrowding can put your pet at risk for getting sick. Some of these illnesses can be transmitted to people.

What if I am separated from my pet?

- Make sure that your family is in a safe location before you begin your search.
- If you are in a shelter that houses pets, inform one of the pet caretakers. Give the pet caretaker your pre-made missing pet handout.
- Once you have been cleared to leave the shelter and return home, contact animal control about your lost pet.
- For more information about pet safety during an emergency, please visit online: https://www.cdc.gov/features/petsanddisasters/index.html

CDC'S ACTIVITIES

CDC's Emergency Operations Center (EOC) is activated to bring together CDC and ATSDR staff to work efficiently to support the local, state, federal and global response to public health needs in the aftermath of Hurricanes Harvey, Irma, and Maria.

During emergency events, the states lead response efforts and the federal government provides expert assistance when a formal request has been made by the affected state.

Internationally, countries lead their own response efforts and can request assistance from the United States government.

CDC and ATSDR have deployed staff to provide medical assistance and help coordinate additional response activities.

STRATEGIC NATIONAL STOCKPILE

When pharmaceutical and medical supplies are needed in disaster areas, CDC and HHS work to help fulfill requests in a number of ways:

- **CDC and HHS deploy Federal Medical Stations and Disaster Medical Assistance Teams. These Federal Medical Stations are transportable healthcare facilities. Each Federal Medical Station comes with a three-day supply of medical and pharmaceutical resources to sustain up to 250 patients.**
- **CDC's Strategic National Stockpile (SNS) maintains limited stock of general medical/surgical supplies that may be used to resupply health care facilities as needed, when these products are not commercially available.**
- **CDC also has the capacity, through the SNS, to engage commercial supply chain partners to help them meet needs in affected areas.**
- **CDC also works with pharmacies to help identify obstacles and develop solutions to help patients access pharmaceuticals.**

- **Local retail, healthcare and public health officials or deployed responders (not CDC) provide direct intervention in pharmacy, clinical or public health dispensing to individuals.**

CDC is working through the response incident management structure to receive and fill requests for resource requirements in Puerto Rico and the US Virgin Islands.

As of 10/5/2017, no pharmaceutical requirements beyond FMS sets have been received. Five Federal Medical Stations have been deployed to Puerto Rico.

ADDITIONAL WEB AND SOCIAL MEDIA RESOURCES

- https://www.cdc.gov/disasters/hurricanes/hurricane_harvey.html
- https://www.cdc.gov/disasters/hurricanes/index.html
- https://www.cdc.gov/nceh/toolkits/hurricanes/default.html
- https://www.cdc.gov/disasters/floods/index.html
- https://www.cdc.gov/nceh/toolkits/floods/default.html
- https://www.cdc.gov/disasters/hurricanes/pdf/infographic-be-ready-hurricanes.pdf
- https://www.cdc.gov/disasters/hurricanes/educationalmaterials.html
- https://www.cdc.gov/phpr/infographics/br-floods.htm
- https://www.cdc.gov/disasters/mold/report/pdf/2005_moldtable5.pdf
- http://www.nws.noaa.gov/os/water/tadd/

FOR MORE INFORMATION

- **CDC website**: http://www.cdc.gov
- **CDC Harvey website:** https://www.cdc.gov/disasters/hurricanes/hurricane_harvey.html
- **CDC Irma website:** https://www.cdc.gov/disasters/hurricanes/hurricane_irma.html
- **CDC Maria website:** https://www.cdc.gov/disasters/hurricanes/hurricane_maria.html
- **CDC emergency website**: https://www.emergency.cdc.gov
- **CDC-INFO by phone:**
  - Monday - Friday
    8:00 a.m. - 8:00 p.m. EST
  - 800-CDC-INFO
    (800-232-4636)
    TTY 888-232-6348

- **CDC-INFO by email:** https://wwwn.cdc.gov/dcs/ContactUs/Form
- **Related Websites**
  - **FEMA website**: https://www.fema.gov
  - **FDA website:** https://www.fda.gov

2017 HURRICANE KEY MESSAGES

Event: 2017 Hurricane Season

Today's Date: October 6, 2017

This key messages document is for internal and external use. It contains the messaging that has been cleared for use in developing other materials related to this emergency response.

Newly updated information in this document is indicated in bold blue.

Key Messages

CONTENTS

BACKGROUND

The Centers for Disease Control and Prevention (CDC) and Agency for Toxic Substances and Disease Registry (ATSDR) are working with federal, state and local agencies as well as global health partners in response to Hurricanes Harvey, Irma, and Maria.

This document summarizes cleared key messages about Hurricanes Harvey, Irma, and Maria and the response by CDC and its partners. It will be updated as new information becomes available and will be distributed regularly. Please share this document with others as appropriate.

Newly updated information is indicated in bold blue with previously cleared messaging and response content shown in black.

UPDATE HIGHLIGHTS

Below are some of the major updates to the CDC Key Messages for the week of 10/9

- A new section about how to prevent the spread of conjunctivitis *[Pages 8-10]*
- Information on the activities of CDC's Strategic National Stockpile to help pharmaceutical access in affected areas. *[p 48-49]*
- Updated information for children and infants *[p 43-46]*
- Added web link for people with diabetes. *[p 46]*

PUBLIC HEALTH PRIORITY MESSAGES FOR HURRICANE MARIA

This week, promoting food, water and medication safety, promoting safe clean up, preventing physical injuries, and vector control continue to be priorities for health and safety in Puerto Rico and the US Virgin Islands.

Keep food, water, and medication safe.

Water: Do not use water you suspect or have been told is contaminated to wash dishes, brush your teeth, wash and prepare food, wash your hands, make ice, or make baby formula.

- Water often can be made safe to drink by boiling, adding disinfectants.
- If using a point of use filter (like a filter attached to a pitcher or to your sink), the filtered water should be boiled or disinfected before use.
- IMPORTANT: Water contaminated with fuel or toxic chemicals will not be made safe by boiling, disinfection or filtration
- Follow local recommendations for boiling or treating water in your area.

Food: Throw away food that may have come in contact with flood or storm water, perishable foods, and those with an unusual odor, color, or texture.

Medication: Some drugs require refrigeration to keep their strength, including many liquid drugs. When the power is out for a day or more, throw away any medication that should be refrigerated, unless the drug's label says otherwise. If a life depends on the refrigerated drugs, use them only until a new supply is available. Replace all refrigerated drugs as soon as possible.

- Resources for people with chronic disease or disability

Stay safe during power outages.

- NEVER touch a fallen power line.
- Do not drive through standing water if downed power lines are in the water.
- If a power line falls across your car while you are driving, stay inside the vehicle and continue to drive away from the line.
    - If the engine stalls, do not turn off the ignition. Do not allow anyone to touch the vehicle. Call or ask someone to call the local utility company and emergency services.
- Keep generators at least 20 feet away from your home. Don't grill inside. Fumes can kill.

If it's hot, move to a cooler place, take sips of water, and take cool showers.

Prevent mosquito bites, and avoid wild or stray animals.

Prevent mosquito bites:

- Wear long-sleeved shirts and long pants.
- Stay in places with air conditioning and window and door screens to keep mosquitoes outside.
- Treat your clothing and gear with permethrin or buy pre-treated items (except in Puerto Rico, where permethrin is not effective).
- Use Environmental Protection Agency (EPA)-registered insect repellents on exposed skin. Use a repellent with one of the following active ingredients: DEET, picaridin, IR3535, oil of lemon eucalyptus, para-menthane-diol, or 2-undecanone.
    - See EPA's search tool here.
    - Always follow the product label instructions.
    - Reapply insect repellent as directed.
    - Do not spray repellent on the skin under clothing.
    - If you are also using sunscreen, apply sunscreen first and insect repellent second.
- For babies and children:
    - Dress your child in clothing that covers arms and legs.
    - Cover crib, stroller, and baby carrier with mosquito netting.
    - See insect repellent recommendations for children below.

For more information, please see Prevent Mosquito Bites.

Avoid wild or stray animals:

- Call local authorities to handle animals.
- Secure all food sources and remove any animal carcasses to avoid attracting rats.

AVOID DRIVING THROUGH FLOODED AREAS

Avoid driving through flooded areas and standing water. As little as six inches of water can cause you to lose control of your vehicle, and two feet of water can cause your car to be swept away. Turn around, don't drown.

During Hurricane Matthew in October 2016, the majority of deaths were due to drowning and most of those drowning deaths were related to driving through water.

STAY SAFE IN A FLOOD

- Emergency management officials have requested that people escaping flood waters as a last resort do not stay in the attic of their house. If the highest floor of your home becomes dangerous, get on the roof. Call 911 for help and stay on the line until the call is answered.
- Follow local flood watches, warnings and instructions.
- Flood water poses drowning risks for everyone, regardless of their ability to swim. Swiftly moving shallow water can be deadly, and even shallow standing water can be dangerous for small children.
- Vehicles do not provide adequate protection from flood waters. They can be swept away or may stall in moving water.
- If flooding occurs, get to higher ground. Get out of areas subject to flooding. This includes dips, low spots, canyons, washes, etc.
- If you are in an area that is in danger of flooding or you are under a flood watch or warning:
    - Gather the emergency supplies, including prescription medications, you previously stocked in your home and stay tuned to your local radio or television station for updates.
    - Turn off all utilities at the main power switch and close the main gas valve if evacuation appears necessary.
    - Have your immunization records handy or be aware of your last tetanus shot, in case you receive a puncture wound or a wound becomes infected during or after the flood.
    - Immunization records should be stored in a waterproof container.
    - Fill bathtubs, sinks and containers with clean water. Sanitize the sinks and tubs first by using bleach. Rinse and fill with clean water.

PERSONAL HYGIENE AND HANDWASHING

Keeping hands clean during an emergency helps prevent the spread of germs. If your tap water is not safe to use, wash your hands with soap and water that has been boiled or disinfected. Follow these steps to make sure you wash your hands properly:

- Wet your hands with clean, running water (warm or cold) and apply soap.
- Rub your hands together to make a lather and scrub them well; be sure to scrub the backs of your hands, between your fingers, and under your nails.
- Continue rubbing your hands for at least 20 seconds. Need a timer? Hum the "Happy Birthday" song from beginning to end twice.
- Rinse your hands well under running water.
- Dry your hands using a clean towel or air dry them.

A temporary hand washing station can be created by using a large water jug that contains clean water (for example, boiled or disinfected).

Washing hands with soap and water is the best way to reduce the number of germs on them. If soap and water are not available, use an alcohol-based hand sanitizer that contains at least 60% alcohol. Alcohol-based hand sanitizers can quickly reduce the number of germs on hands in some situations, but sanitizers do not eliminate all types of germs.

Hand sanitizers are not effective when hands are visibly dirty.

Bathing or showering after a water-related emergency should only be done with clean, safe water. Sometimes water that is not safe to drink can be used for bathing, but be careful not to swallow any water or get it in your eyes.

If you have a drinking water well, listen to your local health authorities for advice on using your well water for showering and bathing. If extensive flooding has occurred or you suspect that your well may be contaminated, contact your local, state, or tribal health department for specific advice on well testing and disinfection.

CONJUNCTIVITIS

CDC is working with the Puerto Rico Department of Health to monitor cases of conjunctivitis, or pink eye, and provide assistance, as needed.

Below are a list of ways to minimize the spread of conjunctivitis to other people.

If you have conjunctivitis, you can help limit its spread to other people by following these steps:

- **Wash your hands often with soap and warm water. Wash them especially well before and after cleaning, or applying eye drops or ointment to, your infected eye. If soap and water are not available, use an alcohol-based hand sanitizer that contains at least 60% alcohol to clean hands. (See CDC's Clean Hands Save Lives! website for tips on proper handwashing.)**
- **Avoid touching or rubbing your eyes. This can worsen the condition or spread it to your other eye.**

- With clean hands, wash any discharge from around your eye(s) several times a day using a clean, wet washcloth or fresh cotton ball. Throw away cotton balls after use, and wash used washcloths with hot water and detergent, then wash your hands again with soap and warm water.
- Do not use the same eye drop dispenser/bottle for your infected and non-infected eyes.
- Wash pillowcases, sheets, washcloths, and towels often in hot water and detergent; wash your hands after handling such items.
- Stop wearing contact lenses until your eye doctor says it's okay to start wearing them again.
- Clean eyeglasses, being careful not to contaminate items (like hand towels) that might be shared by other people.
- Clean, store, and replace your contact lenses as instructed by your eye doctor.
- Do not share personal items, such as pillows, washcloths, towels, eye drops, eye or face makeup, makeup brushes, contact lenses, contact lens storage cases, or eyeglasses.
- Do not use swimming pools.

If you are around someone with conjunctivitis, you can reduce your risk of infection by following these steps:

- Wash your hands often with soap and warm water. If soap and warm water are not available, use an alcohol-based hand sanitizer that contains at least 60% alcohol to clean hands. (See CDC's Clean Hands Save Lives! website for tips on proper handwashing.)
- Wash your hands after contact with an infected person or items he or she uses; for example, wash your hands after applying eye drops or ointment to an infected person's eye(s) or after putting their bed linens in the washing machine.
- Avoid touching your eyes with unwashed hands.
- Do not share items used by an infected person; for example, do not share pillows, washcloths, towels, eye drops, eye or face makeup, makeup brushes, contact lenses, contact lens storage cases, or eyeglasses.

General Conjunctivitis Key Messages:

- Conjunctivitis – or pink eye – is common in adults and children. It spreads quickly and sometimes needs medical treatment, depending on the cause.

- Several viruses and bacteria can cause conjunctivitis (pink eye). Both viral and bacterial conjunctivitis are highly contagious. Each of these types of germs can spread from person to person in different ways. They usually spread from an infected person to others through:
    - Close personal contact, such as touching or shaking hands
    - The air by coughing and sneezing

- **Touching an object or surface with germs on it, then touching your eyes before washing your hands**

Classic symptoms can include:

- **Pink or red color in the white of the eye(s)**
- **Watery eyes**
- **Itchy or scratchy eyes**
- **Discharge from the eye(s)**
- **Crusting of eyelids or lashes**

For more information on conjunctivitis, please visit online at: https://www.cdc.gov/conjunctivitis/index.html.

DIARRHEAL DISEASES

Eating or drinking anything contaminated by flood water can cause diarrheal disease (such as *E. coli* or *Salmonella* infection). To protect yourself and your family:

- Practice good hygiene (handwashing with soap and water) after contact with flood waters.
- Do not allow children to play in flood water areas.
- Wash children's hands with soap and water frequently (always before meals).
- Do not allow children to play with toys that have been contaminated by flood water and have not been disinfected.
- For information on disinfecting certain nonporous toys, visit CDC Healthy Water's Cleaning and Sanitizing with Bleach section.

WOUND INFECTIONS

Open wounds and rashes exposed to flood waters can become infected. To protect yourself and your family:

- Avoid contact with flood waters if you have an open wound.
- Cover clean, open wounds with a waterproof bandage to reduce chance of infection.
- Keep open wounds as clean as possible by washing well with soap and clean water.
- If a wound develops redness, swelling, or oozing, seek immediate medical care.
- Vibrios are naturally occurring bacteria that live in certain coastal waters. They can cause a skin infection when an open wound is exposed to salt water or a mix of salt and fresh water, which can occur during floods.

The risk for injury during and after a hurricane and other natural disasters is high. Prompt first aid can help heal small wounds and prevent infection. Wash your hands with soap and water before and after

providing first aid for a wound to help prevent infection. Use an alcohol-based hand sanitizer that contains at least 60% if soap and water are not available. Tetanus, other bacterial infections, and fungal infections are potential health threats for persons who have open wounds.

Seek medical attention as soon as possible if:

- There is a foreign object (soil, wood, metal, or other objects) embedded in the wound;
- The wound is at special risk of infection (such as a dog bite or a puncture by a dirty object);
- An old wound shows signs of becoming infected (increased pain and soreness, swelling, redness, draining, or you develop a fever).

How to Care for Minor Wounds

- Wash your hands thoroughly with soap and clean water if possible.
- Avoid touching the wound with your fingers while treating it (if possible, use disposable, latex gloves).
- Remove obstructive jewelry and clothing from the injured body part.
- Apply direct pressure to any bleeding wound to control bleeding.
- Clean the wound after bleeding has stopped.
    - Examine wounds for dirt and foreign objects.
    - Gently flood the wound with bottled water or clean running water (if available, saline solution is preferred).
    - Gently clean around the wound with soap and clean water.
    - Pat dry and apply an adhesive bandage or dry clean cloth.
- Leave unclean wounds, bites, and punctures open. Wounds that are not cleaned correctly can trap bacteria and result in infection.
- Provide pain relievers when possible.

Other Considerations

- Expect a variety of infection types from wounds exposed to standing water, sea life, and ocean water.
- Wounds in contact with soil and sand can become infected.
- Puncture wounds can carry bits of clothing and dirt into wounds and result in infection
- Crush injuries are more likely to become infected than wounds from cuts.
- Take steps to prevent tetanus

IMMUNIZATIONS

Interim Immunization Recommendations for Individuals Displaced by a Disaster are available at https://www.cdc.gov/disasters/disease/vaccrecdisplaced.html

The purpose of these recommendations are two-fold:

1. To ensure that children, adolescents, and adults are protected against vaccine-preventable diseases in accordance with current recommendations. **Paper** immunization records are unlikely to be available for a large number of adult and child evacuees. Use of immunization information system (IIS) may be an important tool for healthcare providers. It is important that immunizations are kept current if possible.
2. To reduce the likelihood of outbreaks of vaccine-preventable diseases in large crowded group settings.

Easy to read schedules of routinely recommended immunization are available at https://www.cdc.gov/vaccines/schedules/easy-to-read/index.html

Immunizations for Crowded Group Settings:

In addition to the vaccines given routinely as part of the child, adolescent, and adult schedules, the following vaccines should be given to evacuees living in crowded group settings, unless the person has written documentation of having already **received** them:

- Influenza: everyone 6 months of age or older should receive influenza vaccine. For additional information see (MMWR 2017 Aug 25;66[2]:1-20).
- Varicella: everyone 12 months of age or older should receive one dose of this vaccine unless they have a documented record of immunization or documentation of health care provider diagnosis of chickenpox or shingles.
- MMR: everyone 12 months of age or older and born during or after 1957 should receive one dose of this vaccine unless they have a documented record of 2 doses of MMR **or other evidence of immunity.**

The following vaccines should not routinely be necessary for evacuees living in crowded group settings, unless otherwise indicated:

- Hepatitis A: Although hepatitis A vaccine is recommended for all children in the U.S. aged 12-23 months, evacuation itself is not a specific indication for hepatitis A vaccination of previously unvaccinated children per se unless exposure to hepatitis A virus is suspected. Persons who evacuate their homes under orderly conditions at the advisement of state or local officials to a congregate setting where sanitary conditions prevail should not require hepatitis A vaccine, unless they have been evacuated from an area where exposure to hepatitis A virus is likely or have been exposed to persons with suspected or proven hepatitis A infection.

Immunocompromised individuals, **such as persons with severe immunosuppression associated with HIV infection**, pregnant women, and those on systemic steroids or other immunosuppressive medications, should not receive the live viral vaccines, varicella and MMR. Screening should be performed by self-report.

TETANUS

Guidance for tetanus-related questions in areas affected by hurricanes:

Protection against tetanus:

- Vaccination prevents tetanus, however this does not last a lifetime. This means that if you were vaccinated before or had tetanus before, you still need to get vaccinated regularly to keep a high level of protection against this serious disease. Being up to date with your tetanus vaccine is the best tool to prevent tetanus.
- Tetanus vaccines are recommended for people of all ages. After a series of tetanus shots during childhood and adolescence, adults need a tetanus booster shot (Td) every 10 years. Td or the tetanus booster shot that add protection against pertussis, or whooping cough, (Tdap) can be used; getting Tdap instead of Td for one tetanus booster during adulthood is recommended to maintain protection against whooping cough.
- Guidance on tetanus vaccination can be found on the following CDC websites.
    - https://www.cdc.gov/disasters/floods/workersafety.html
    - https://www.cdc.gov/disasters/disease/immunizationqa.html
    - https://www.cdc.gov/disasters/disease/tetanus.html
    - https://www.cdc.gov/vaccines/schedules/easy-to-read/index.html

If you have wounds, you should be evaluated for a tetanus immunization. If you receive a puncture wound or a wound contaminated with feces, soil, or saliva, have a health care professional determine whether a tetanus booster is necessary based on individual records.

Risk of tetanus after exposure to flood water:

- Exposure to flood waters does not increase the risk of tetanus. However, some people may have wounds such as puncture to the skin or nail sticks, cuts, bruises, lacerations, or scrapes (or other skin injuries) that become contaminated with flood waters, human or animal wastes, soil, dirt, or saliva. Besides treatment of these wounds, the vaccination status of such persons should be assessed and an age-appropriate tetanus vaccine given if needed. In some of these situations, the doctor or healthcare provider may decide that a tetanus vaccine is needed as early as 5 years since the last dose.
- Being up to date for tetanus vaccine can greatly simplify the treatment for any wound that might occur.

Risk of tetanus to emergency responders, clean-up workers, volunteers

- During evacuation and flood cleanup, emergency responders, cleanup workers, or volunteers may be at increased risk for wounds (as named above). For this reason, such workers should be sure that they are up to date with tetanus vaccination, ideally before starting evacuation or cleanup activities.

- Being up to date for tetanus vaccine can greatly simplify the treatment for any wound that might occur.

Mass vaccination campaigns to prevent tetanus during flooding are not needed.

- Tetanus immunization campaigns for evacuees from flooding disasters are generally not needed. However, each state and local health departments may determine that a vaccination effort is warranted based on local considerations.

ANIMAL HAZARDS

Avoid Wild or Stray Animals

- Call local authorities to handle animals.
- Secure all food sources and remove any animal carcasses to avoid attracting rats.
- Get rid of dead animals, according to guidelines from your local animal control authority, as soon as you can. See Animal Disposal for answers to frequently asked questions.
- For more information, contact your local animal shelter or services, a veterinarian, or the Humane Society for advice on dealing with pets or stray or wild animals after an emergency.

Prevent Contact with Rodents

- Remove food sources, water, and items that can provide shelter for rodents.
- Wash dishes, pans, and cooking utensils immediately after use.
- Dispose of garbage and debris as soon as possible.

Prevent or Respond to a Snake Bite

- Be aware of snakes that may be swimming in the water to get to higher ground and those that may be hiding under debris or other objects.
- If you see a snake, back away from it slowly and do not touch it.
- If you or someone you know are bitten, try to see and remember the color and shape of the snake, which can help with treatment of the snake bite.
- Keep the bitten person still and calm. This can slow down the spread of venom if the snake is poisonous. Seek medical attention as soon as possible. Dial 911 or call local Emergency Medical Services. Poison Control Centers can also be a source of help and can be reached at 1-800-222-1222. Apply first aid if you cannot get the person to the hospital right away. Lay or sit the person down with the bite below the level of the heart.
    - Tell him/her to stay calm and still.
    - Cover the bite with a clean, dry dressing.

Plague:

There are reports that floodwaters bring a danger of plague. This is FALSE. Plague is rare in the United States. It is spread through fleas, not floodwater. CDC is not expecting to see an increased risk of plague from Hurricane Harvey. To learn more about plague, visit https://www.cdc.gov/plague/

MOSQUITOES AND HURRICANES

- Adult mosquitoes do not generally survive high winds during a hurricane.
- Immediately following a hurricane, flooding may occur. Mosquito eggs laid in the soil by floodwater mosquitoes during previous rain or floods hatch. This results in very large populations of floodwater mosquitoes. Most of these mosquitoes are considered nuisance mosquitoes.
- In general, nuisance mosquitoes do not spread viruses that make people sick. The types of mosquitoes that can spread viruses may increase 2 weeks to 2 months after a hurricane, especially in areas that did not flood but received more rainfall than usual.
- In areas with Aedes aegypti mosquitoes and local spread of Zika, chikungunya, or dengue, increased rainfall may result in increased hatching of Ae. aegypti eggs from water-holding containers. People may be at more risk of getting infected with these viruses, and they should take steps to protect themselves from mosquito bites.
- Because people spend more time outside cleaning up after a hurricane or flood, they are more likely to be bitten by nuisance mosquitoes. CDC does not expect to see a substantial increase in diseases spread by mosquitos, but CDC is not able to clearly predict if mosquito-borne diseases will increase in hurricane-affected areas. CDC continues to work with state and territorial health departments to monitor the situations and provide technical assistance as requested in areas impacted by Hurricanes Harvey, Irma, and Maria. CDC will share information with all its partners as it becomes available.
- Large numbers of nuisance mosquitoes can affect recovery efforts. For this reason, local or state mosquito control experts will often take steps to control these mosquitoes.
- Although flooding caused by hurricanes can be severe and an increase in mosquito populations is expected in the coming weeks, CDC does not expect to see a substantial increase in the number of people getting sick from diseases spread by mosquitoes. CDC will work closely with state and local health officials to monitor the situation and take action if necessary.

MOSQUITOES AFTER HURRICANES HARVEY, IRMA, AND MARIA

- Populations of mosquitoes are expected to increase in areas affected by the hurricanes, including Texas, Florida, Puerto Rico, and the US Virgin Islands (USVI).
- At this time, CDC has not received reports of an increase in mosquito-borne diseases in any of the hurricane-affected areas.
- No data are available on the impact of back-to-back hurricanes, but impact is not expected to differ from impact of one severe hurricane.

- CDC continues to work with state and territorial health departments to monitor the situations and provide technical assistance as requested in areas impacted by Hurricanes Harvey, Irma, and Maria. CDC will share information with all its partners as it becomes available.
- CDC is not able to predict if mosquito-borne diseases will increase in hurricane-affected areas.
    - Many areas in the United States have the type of mosquitoes that can become infected with and spread Zika, dengue, and chikungunya (*Ae. aegypti* and *Ae. albopictus*) and West Nile viruses (*Culex spp.*).
    - CDC will maintain and improve our ability to identify and test for Zika and other mosquito-borne diseases.

PREVENT MOSQUITO BITES

The best way to prevent diseases spread by mosquitoes is to protect yourself and your family from mosquito bites.

- Wear long-sleeved shirts and long pants.
- Stay in places with air conditioning and window and door screens to keep mosquitoes outside.
- Treat your clothing and gear with permethrin or buy pre-treated items (except in Puerto Rico, where permethrin is not effective).

Use Environmental Protection Agency (EPA)-registered insect repellents on exposed skin. Use a repellent with one of the following active ingredients: DEET, picaridin, IR3535, oil of lemon eucalyptus, para-menthane-diol, or 2-undecanone.

- See EPA's search tool here.
- Always follow the product label instructions.
- Reapply insect repellent as directed.
- Do not spray repellent on the skin under clothing.
- If you are also using sunscreen, apply sunscreen first and insect repellent second.

For babies and children:

- Dress your child in clothing that covers arms and legs.
- Cover crib, stroller, and baby carrier with mosquito netting.
- See insect repellent recommendations for children below.

Take steps to control mosquitoes inside and outside your home

- After a hurricane or flood, the health department or mosquito control district will often take steps to reduce the mosquito population.
- Residents can take steps to help control mosquitoes in and around their homes to prevent mosquito bites.

DENGUE

- Dengue is a disease caused by any one of four closely related dengue viruses (DENV 1, DENV 2, DENV 3, or DENV 4).
- The viruses are spread to people through the bite of an infected mosquito.
- It is estimated that there are over 100 million cases of dengue worldwide each year.

Dengue after Hurricanes Harvey, Irma, and Maria:

- Before Hurricanes Harvey and Irma, there was no local spread of dengue spread by *Aedes* mosquitoes in Houston or Florida, or other areas affected by flooding.
- Locally spread Zika and dengue have been reported in Puerto Rico and USVI this year. Although the flooding caused by recent hurricanes is severe and we do expect to see an increase the mosquito population in the upcoming weeks, we do not expect to see cases of dengue appear in the affected areas because of the flooding.

WEST NILE

- West Nile is a virus most commonly spread to people by mosquito bites.
- In North America, cases of West Nile virus (WNV) occur during mosquito season, which starts in the summer and continues through fall.
- WNV cases have been reported in all of the continental United States.
- There are no vaccines to prevent or medications to treat WNV. Fortunately, most people infected with WNV do not have symptoms.
- About 1 in 5 people who are infected develop a fever and other symptoms.
- About 1 out of 150 infected people develop a serious, sometimes fatal, illness.
- Though pregnant women are not at higher risk for WNV infection, they should take steps to prevent mosquito bites.

West Nile after Hurricanes Harvey and Irma:

- Cases of West Nile virus have been reported in Texas and Florida this summer.
- Although the flooding caused by Hurricanes Harvey and Irma is severe and we do expect to see an increase the mosquito population in the upcoming weeks, West Nile virus cases are not expected to increase in the affected areas as a result of flooding.

ZIKA

- Zika is a virus spread mostly by the bite of an infected *Aedes* species mosquito (*Ae. aegypti* and *Ae. albopictus*).
- It can also be passed through sex without a condom with an infected person, even if that person does not show symptoms.
- If a pregnant woman is infected with Zika virus, it can be passed to her fetus and potentially cause birth defects, including microcephaly and other severe fetal brain defects.

- Many people infected with Zika virus won't have symptoms or will only have mild symptoms. For those who do have symptoms, they are usually mild and last for several days to a week.
- Signs and symptoms of Zika virus infection include fever, rash, headache, joint pain, conjunctivitis (red eyes), and muscle pain.
- No specific treatment is available for Zika virus disease.
- The best way to prevent Zika and other viruses spread by mosquitoes is to prevent mosquito bites.
- Condoms can reduce the chance of getting Zika from sex.
    - Not having sex eliminates the risk of getting Zika from sex.

Zika after Hurricanes Harvey, Irma, and Maria:

- **Prior to Hurricanes Harvey, Irma, and Maria, Zika outbreaks had occurred throughout the Americas, and in the US territories, Puerto Rico and US Virgin Islands (USVI). Local spread of the virus had been reported in Texas and Florida. For more information, see Areas with Risk of Zika.**
- The types of mosquitoes that spread Zika live in many areas of the United States, including Texas and Florida, and in the US territories, Puerto Rico and USVI.
- On June 2, 2017, the yellow area designation was removed for Miami-Dade County, Florida.
- As of August 29, 2017, CDC, in collaboration with the Texas Department of State Health Services, has updated guidance for people who travel to or live in Brownsville, Texas, to lift the Zika cautionary (yellow) area designation.
- Although the level of risk of Zika virus transmission after a yellow area is removed is not known, it is likely to be low. However, sporadic cases may still occur.
- For this reason, CDC recommends that people living in or traveling to Miami-Dade County, Brownsville, Texas, Puerto Rico, and USVI continue to protect themselves from mosquito-borne illnesses, including Zika virus.
- After the designations were lifted in these areas, before Hurricanes Harvey and Irma, there was no local spread of Zika spread by *Aedes* mosquitoes in Houston or Florida, or other areas in the continental United States affected by flooding. However, in 2017, local spread has been occurring in Puerto Rico and USVI.
- Continental US states: Although the flooding caused by the hurricanes is severe and we do expect to see an increase the mosquito population in the upcoming weeks, we do not expect to see cases of Zika appear in affected areas because of the flooding.

TEXAS

- Hurricane Harvey made landfall along the Middle Texas Coast on August 25, 2017.
- Brownsville, Texas was previously designated as a Zika cautionary (yellow) area, but that designation was lifted on August 29, 2017. This means that there are no longer any travel recommendations related to Zika virus for Brownsville. However, sporadic cases may still occur in Brownsville or the surrounding areas (e.g., Lower Rio Grande Valley). For this reason, CDC recommends that people living in or traveling to Brownsville and the southernmost areas of the state continue to protect themselves from mosquito-borne illnesses, including Zika virus.

- The Texas Department of State Health Services is working with counties that have requested mosquito control assistance to coordinate spraying.
- Updates on mosquito control in Texas can be found at: http://dshs.texas.gov/news/releases/2017/20170906.aspx

FLORIDA

- Hurricane Irma made landfall in the lower Florida Keys on September 10, 2017.
- Miami-Dade County was previously designated as a Zika cautionary (yellow) area, but that designation was removed on June 2, 2017. This means that there are no longer any travel recommendations related to Zika virus for Miami-Dade County, Florida. Although the level of risk of Zika virus transmission after a yellow area is removed is not known, it is likely to be low. However, sporadic cases may still occur. For this reason, CDC recommends that people living in or traveling to Miami-Dade County continue to protect themselves from mosquito-borne illnesses, including Zika virus.
- Mosquito control activities including spraying are occurring in South Florida.

US TERRITORIES

- Puerto Rico and USVI have the type of mosquitoes that can become infected with and spread Zika, dengue, and chikungunya (*Ae. aegypti* and *Ae. albopictus*).
- CDC will continue to work with the Puerto Rico and USVI departments of health as requested.
- Puerto Rico did not see a significant increase in dengue cases after Hurricane Georges in 1998.
- Central America also did not see a significant increase in dengue cases after Hurricane Mitch in 1998.

PUERTO RICO

- Hurricane Irma and Hurricane Maria caused widespread flooding and devastation in Puerto Rico in September, 2017.
- Locally spread cases of Zika and dengue have been reported in Puerto Rico this year.
- No cases of chikungunya have been reported in 2017.
- Puerto Rico did not spray for nuisance mosquitoes or for mosquitoes that spread diseases (like *Ae. aegypti*) after Hurricane Irma.
- CDC is not aware if Puerto Rico will spray for nuisance mosquitoes or for mosquitoes that spread diseases (like *Ae. aegypti*) after Hurricane Maria.

US VIRGIN ISLANDS

- Hurricane Irma and Hurricane Maria caused widespread flooding and devastation in the US Virgin Islands in September, 2017.
- Local cases of Zika and dengue have been reported in USVI in 2017.
- No cases of chikungunya have been reported in 2017.
- USVI did not spray for nuisance mosquitoes or for mosquitoes that spread diseases (like *Ae. aegypti*) after Hurricane Irma.
- USVI officials are preparing a request to FEMA for aerial larvicide application.

For more information about Zika virus, click here: https://www.cdc.gov/zika/about/index.html

For more information about Zika virus and pregnancy, click here: https://www.cdc.gov/zika/pregnancy/index.html

For more information about Zika virus prevention, click here: https://www.cdc.gov/zika/prevention/index.html

CHEMICAL AND OIL EXPOSURES

- Use extreme caution when returning to your area after a flood. Be aware of potential chemical hazards you may encounter during flood recovery. Flood waters may have buried or moved hazardous chemical containers of solvents or other industrial chemicals from their normal storage places.
- If any propane tanks (whether 20-lb. tanks from a gas grill or household propane tanks) are discovered in a previously flooded area, do not attempt to move them yourself. These represent a very real danger of fire or explosion, and if any are found, police or fire departments or your State Fire Marshal's office should be contacted immediately.
- Car batteries, even those in flood water, may still contain an electrical charge and should be removed with extreme caution by using insulated gloves. Avoid coming in contact with any acid that may have spilled from a damaged car battery.
- Containers of dry chemicals that may have become wet due to flooding in your home or garage can be dangerous. When in doubt about how to safely handle these chemicals, contact your local fire department.
- Avoid Oil Spills
    - Crude oil is a mixture of chemicals that could be released into the environment during an emergency such as a hurricane and flood. In flood situations, some parts of the oil will float on water and can be seen as a film on the surface, and other parts will sink to the bottom. Other parts of the oil can become fumes in the air. People can come into contact with these chemicals by getting them on their skin or by breathing them in the air. If you notice oil in the water, stay away from it and contact local authorities or EPA at 1-800-424-8802. Emergency responders and workers should use appropriate clothing and personal protective equipment when working in these hazardous conditions.

- If you have come into contact with a chemical from a spill or accident and feel ill, seek medical attention immediately from a health care professional.
- Your regional poison center is available 24/7 by calling 1-800-222-1222 to help assist you in determining if you should seek medical attention following a potential chemical exposure or for information on chemicals.

- Check with your state and/or local health department and news sources to determine if there any known chemical spills in your area and up to date information on recommendations on how to protect yourself.
- CDC has general information available online regarding chemical emergencies here: (https://emergency.cdc.gov/chemical/overview.asp). Topics discussed include what a chemical emergency is, when to evacuate, when to shelter in place and how to clean yourself following a chemical exposure and handle contaminated clothing.

LANDSLIDES AND MUDSLIDES

- Landslides occur when masses of rock, earth, or debris move down a slope.
- Debris flows, also known as mudslides, are a common type of fast-moving landslide that tends to flow in channels.
- Landslides are caused by disturbances in the natural stability of a slope. They can accompany heavy rains or follow droughts, earthquakes, or volcanic eruptions.
- Mudslides develop when water rapidly accumulates in the ground and results in a surge of water-saturated rock, earth, and debris. Mudslides usually start on steep slopes and can be activated by natural disasters.
- Areas where wildfires or human modification of the land have destroyed vegetation on slopes are particularly vulnerable to landslides during and after heavy rains.

Health threats from landslides and debris flows

In the United States, landslides and debris flows result in 25 to 50 deaths each year. The health hazards associated with landslides and mudflows include:

- Rapidly moving water and debris that can lead to trauma;
- Broken electrical, water, gas, and sewage lines that can result in injury or illness; and
- Disrupted roadways and railways that can endanger motorists and disrupt transport and access to health care.

Some areas are more likely to experience landslides or mudflows, including:

- Areas where wildfires or human modification of the land have destroyed vegetation;
- Areas where landslides have occurred before;
- Steep slopes and areas at the bottom of slopes or canyons;
- Slopes that have been altered for construction of buildings and roads;
- Channels along a stream or river; and
- Areas where surface runoff is directed.

What you can do to protect yourself

Before intense storms and rainfall

- Assume that steep slopes and areas burned by wildfires are vulnerable to landslides and debris flows.
- Learn whether landslides or debris flows have occurred previously in your area by contacting local authorities, a county geologist or the county planning department, state geological surveys or departments of natural resources, or university departments of geology.
- Contact local authorities about emergency and evacuation plans.
- Develop emergency and evacuation plans for your family and business.
- Develop an emergency communication plan in case family members are separated.
- If you live in an area vulnerable to landslides, consider leaving it.

During intense storms and rainfall

- Listen to the radio or watch TV for warnings about intense rainfall or for information and instructions from local officials.
- Be aware of any sudden increase or decrease in water level on a stream or creek that might indicate debris flow upstream. A trickle of flowing mud may precede a larger flow.
- Look for tilted trees, telephone poles, fences, or walls, and for new holes or bare spots on hillsides.
- Listen for rumbling sounds that might indicate an approaching landslide or mudflow.
- Be alert when driving. Roads may become blocked or closed due to collapsed pavement or debris.
- If landslide or debris flow danger is imminent, quickly move away from the path of the slide. Getting out of the path of a debris flow is your best protection. Move to the nearest high ground in a direction away from the path. If rocks and debris are approaching, run for the nearest shelter and take cover (if possible, under a desk, table, or other piece of sturdy furniture).

After a landslide or debris flow

- Stay away from the site. Flooding or additional slides may occur after a landslide or mudflow.

- Check for injured or trapped people near the affected area, if it is possible to do so without entering the path of the landslide or mudflow.
- Listen to the radio or TV for emergency information.
- Report broken utility lines to the appropriate authorities.
- Consult a geotechnical expert (a registered professional engineer with soils engineering expertise) for advice on reducing additional landslide problems and risks. Local authorities should be able to tell you how to contact a geotechnical expert.

RETURNING HOME

Return to your flooded home only after local authorities have told you it is safe to do so.

CLEANING AND SANITIZING YOUR HOME

When returning to your home after a hurricane or flood, be aware that flood water may contain sewage and other hazards. Protect yourself and your family by following these steps:

INSIDE THE HOME

- Keep children and pets out of the affected area until cleanup has been completed.
- Wear personal protective equipment, including rubber boots, rubber gloves, and goggles during cleanup of affected area.
- While cleaning up areas with mold damage, wear a NIOSH-approved N-95 respirator, or one that provides even more protection. Look for N-95 on the package.
- Remove and discard items that cannot be washed and disinfected (such as, mattresses, carpeting, carpet padding, rugs, upholstered furniture, cosmetics, stuffed animals, baby toys, pillows, foam-rubber items, books, wall coverings, and most paper products).
- Remove and discard drywall and insulation that has been contaminated with sewage or flood waters.
- This should include material that are located a foot higher than the high water line.
- Thoroughly clean all hard surfaces (such as flooring, concrete, molding, wood and metal furniture, countertops, appliances, sinks, and other plumbing fixtures) with hot water and laundry or dish detergent.
- Help the drying process by using fans, air conditioning units, and dehumidifiers.
- After completing the cleanup, wash your hands with soap and clean water.
- Wash all clothes worn during the cleanup in hot water and detergent. These clothes should be washed separately from uncontaminated clothes and linens.

- Wash clothes contaminated with flood or sewage water in hot water and detergent. It is recommended that a laundromat be used for washing large quantities of clothes and linens until your onsite wastewater system has been professionally inspected and serviced.
- Seek immediate medical attention if you become injured or ill.

Disinfect toys

Remember that anything that has had contact with floodwater could carry germs. To keep your kids safe, make sure their toys are clean. Some toys cannot be cleaned, particularly those that have been in floodwaters. When in doubt, throw toys out.

- Make a cleaning fluid by mixing 1 cup of bleach in 5 gallons of water and wash off toys carefully with your cleaner.
- If you have dishwasher-safe toys, they can be cleaned in a commercial dishwasher that has a dry cycle or a final rinse that exceeds 113°F for 20 minutes or 122°F for 5 minutes or 162°F for 1 minute.
- Once toys are cleaned, let them air dry.
- Stuffed animals or cloth toys that were wet with floodwater should be thrown out.

See also Reentering Your Flooded Home, Mold Cleanup and Remediation, and Cleaning and Sanitizing With Bleach after an Emergency.

MOLD

After natural disasters such as hurricanes, tornadoes, and floods, excess moisture and standing water contribute to the growth of mold in homes and other buildings. When returning to a home that has been flooded, be aware that mold may be present and may be a health risk for your family.

If there is mold growth in your home, you should clean up the mold and fix any water problem, such as leaks in roofs, walls, or plumbing. Controlling moisture in your home is the most critical factor for preventing mold growth. Keep children and pets out of the affected area until cleanup has been completed.

Detailed information about cleaning up mold is available in the Homeowner's and Renter's Guide to Mold Cleanup After Disasters.

People at Greatest Risk from Mold

- People with asthma, allergies, or other breathing conditions may be more sensitive to mold.
- People with a weakened immune system, such as people receiving treatment for cancer, people who have had an organ or stem cell transplant, and people taking medicines that suppress the immune system, are more likely to get a serious illness from mold.

- If you have a breathing problem like asthma, a weakened immune system, or are pregnant, try not to enter a building with mold damage.
- Children under 12 should not enter a building with mold damage.

Possible Health Effects of Mold Exposure

- People who are sensitive or allergic to mold may experience problems like asthma attacks, wheezing, stuffy nose, and irritated eyes and skin.
- Mold exposure can lead to severe infections in people with a weakened immune system.
- If you or your family members have health problems after exposure to mold, contact your doctor or other health care provider.

Recognizing Mold

You may recognize mold by:

- **Sight.** Are the walls and ceiling discolored, or do they show signs of mold growth or water damage?
- **Smell.** Do you smell a bad odor, such as a musty, earthy smell or a foul stench?

Safely Preventing Mold Growth

- Clean up and dry out the building as quickly as you can.
- Open doors and windows.
- Use fans to dry out the building. Position fans to blow air out doors or windows.
- See the fact sheet for drying out your house, Reentering Your Flooded Home.
- When in doubt, take it out! Remove all porous items that have been wet for more than 48 hours and that cannot be thoroughly cleaned and dried. These items can remain a source of mold growth and should be removed from the home. Porous, non-cleanable items include carpeting and carpet padding, upholstery, wallpaper, drywall, floor and ceiling tiles, insulation material, some clothing, leather, paper, wood, and food.
- Removal and cleaning are important because even dead mold may cause allergic reactions in some people.
- To prevent mold growth, clean wet items and surfaces with detergent and water.
- Homeowners may want to temporarily store items outside of the home until insurance claims can be filed. See recommendations by the Federal Emergency Management Agency (FEMA).

Cleaning Up Mold

To remove mold growth from hard surfaces use commercial products, soap and water, or a bleach solution of no more than 1 cup of household laundry bleach in 1 gallon of water. Follow the manufacturers' instructions for use (see product label). Use a stiff brush on rough surface materials such as concrete.

When removing mold:

- Never mix bleach with ammonia or other household cleaners. Mixing bleach with ammonia or other cleaning products will produce dangerous, toxic fumes.
- Open windows and doors to provide fresh air.
- Wear rubber boots, rubber gloves, and goggles during cleanup of affected area.
- If the area to be cleaned is more than 10 square feet, consult the U.S. Environmental Protection Agency (EPA) guide titled Mold Remediation in Schools and Commercial Buildings. Also available is A Brief Guide to Mold, Moisture, and Your Home.
- Always follow the manufacturer's instructions when using bleach or any other cleaning product.
- For more information on personal safety while cleaning up after a natural disaster, see Response Worker Health and Safety(https://www.cdc.gov/disasters/workers.html).

Protect your nose and mouth against breathing in mold:

Before you enter a building with mold damage, wear at least a NIOSH-approved N-95 respirator, which you can buy at a home supply store. If you plan to spend a lot of time removing moldy belongings or doing work like ripping out moldy drywall, wear a half-face or full-face respirator. Make certain that you follow instructions on the package for fitting the mask respirator tightly to your face. N-95 respirators are only approved for filtering out dust in the air (for example, from sweeping, sawing, and mold removal). This type of respirator will not protect you against chemicals or gases in the air, such as cleaning products or carbon monoxide.

OUTSIDE THE HOME

- Keep children and pets out of the affected area until cleanup has been completed.
- Have your onsite waste-water system professionally inspected and serviced if you suspect damage.
- Wash all clothes worn during the cleanup in hot water and detergent. These clothes should be washed separately from uncontaminated clothes and linens.
- After completing the cleanup, wash your hands with soap and clean water.
- Seek immediate medical attention if you become injured or ill. See wound care information.

SAFE SHELTERING

Follow safe hygiene and diapering recommendations when in a shelter.

In emergency situations, making sure that diaper changing practices remain hygienic is essential to reducing the spread of germs. Even a microscopic amount of fecal matter can contain millions of germs. CDC has developed guidelines and checklists to help parents, childcare providers, emergency

responders, and others learn how to practice safe and germ-free diaper changing in emergency situations.

Emergency shelters should ensure accessibility for persons with disabilities, including people who use wheelchairs or scooters or who have difficulty walking, people who are deaf or hard-of-hearing, and people who are blind or have low vision.

Americans with Disabilities Act Checklist for Emergency Shelters

When planning for older adults, officials must ensure that shelter facilities meet the special needs of this population. For example, shelters must:

- Be accessible to people who need help or certain accommodations to perform routine care or activities of daily living (e.g., to use the bathroom, bathe, dress, groom, or get into and out of bed).
- Be accessible to people who have certain disabilities, such as those who use a wheelchair.
- Include signs and other forms of communication that can be understood by older adults.
- Include energy sources for electricity (i.e., generators), heating, and air conditioning.

AVOID CARBON MONOXIDE POISONING

Carbon monoxide (CO) is an odorless, colorless gas that can cause sudden illness and death if inhaled.

When power outages occur during emergencies such as hurricanes or winter storms, the use of alternative sources of fuel or electricity for heating, cooling, or cooking can cause CO to build up in a home, garage, or camper and to poison the people and animals inside.

Every year, more than 400 people die in the U. S. from accidental CO poisoning.

Exposure to CO can cause loss of consciousness and death. The most common symptoms of CO poisoning are headache, dizziness, weakness, nausea, vomiting, chest pain, and confusion. People who are sleeping or who have been drinking alcohol can die from CO poisoning before ever having symptoms.

Important CO Poisoning Prevention Tips

- Never use a generator, pressure washer, or any gasoline-powered engine inside your home, basement, or garage or less than 20 feet from any window, door, or vent of your home or your neighbor's home.
- When using a generator, use a battery-powered or battery backup CO detector in your home.
- Never use a gas range or oven to heat a home.
- Never leave the motor running in a vehicle parked in an enclosed or partially enclosed space, such as a garage.

- Never run a generator, pressure washer, or any gasoline-powered engine inside a basement, garage, or other enclosed structure, even if the doors or windows are open, unless the equipment is professionally installed and vented. Keep vents and flues free of debris, especially if winds are high. Flying debris can block ventilation lines.
- Never use a charcoal grill, hibachi, lantern, or portable camping stove inside a home, tent, or camper.
- If conditions are too hot or too cold, seek shelter with friends or at a community shelter.
- If CO poisoning is suspected, move to outside air, call 911 or your local Poison Control Center at 1-800-222-1222 or consult a health care professional right away.

Businesses can help ensure your customers' safety by placing important information about protecting oneself from CO poisoning in the direct vicinity of generators they are selling.

POWER OUTAGES AND ELECTRICAL DANGERS

- NEVER touch a fallen power line. Call the power company to report fallen power lines.
- Do not walk or drive through standing water if downed power lines are in the water.
- If you believe someone has been electrocuted, call or have someone else call 911 or emergency medical help.
- After a hurricane, flood or other natural disaster you need to be careful to avoid electrical hazards both in your home and elsewhere.
- Avoid contact with overhead power lines during cleanup and other activities.

If a power line falls across your car while you are driving, stay inside the vehicle and continue to drive away from the line.

- If the engine stalls, do not turn off the ignition.
- Warn people not to touch the car or the line.
- Call or ask someone to call the local utility company and emergency services.
- Do not allow anyone other than emergency personnel to approach your vehicle.

If electrical circuits and electrical equipment have gotten wet or are in or near water, turn off the power at the main breaker or fuse on the service panel.

- Do not enter standing water to access the main power switch.
- Call an electrician to turn it off.

Never turn power on or off yourself or use an electric tool or appliance while standing in water.

- Do not turn the power back on until electrical equipment has been inspected by a qualified electrician.

- All electrical equipment and appliances must be completely dry before returning them to service.
- Have a certified electrician check these items if there is any question.

If you see frayed wiring or sparks when you restore power, or if there is an odor of something burning but no visible fire, you should immediately shut off the electrical system at the main circuit breaker.

Consult your utility company about using electrical equipment, including power generators.

- Do not connect generators to your home's electrical circuits without the approved, automatic-interrupt devices.
- If a generator is on line when electrical service is restored, it can become a major fire hazard and it may endanger line workers helping to restore power in your area.

If you believe someone has had electric shock take the following steps:

- Look first. Don't touch. The person may still be in contact with the electrical source. Touching the person may pass the current through you.
- Call or have someone else call 911 or emergency medical help.
- Turn off the source of electricity if possible. If not, move the source away from you and the affected person using a non-conducting object made of cardboard, plastic or wood.
- Once the person is free of the source of electricity, check the person's breathing and pulse. If either has stopped or seems dangerously slow or shallow, begin cardiopulmonary resuscitation (CPR) immediately.
- If the person is faint or pale or shows other signs of shock, lay him or her down with the head slightly lower than the trunk of the body and the legs elevated.
- Don't touch burns, break blisters, or remove burned clothing. Electrical shock may cause burns inside the body, so be sure the person is taken to a doctor.

IMPACT OF POWER OUTAGE ON VACCINE STORAGE

In areas where vaccine supplies are affected by temporary power outages, the guidance developed for providers during the 2003 Northeast Power Outage may be helpful:

- Do not open freezers and refrigerators until power is restored.
- Most refrigerated vaccines are relatively stable at room temperature for limited periods of time. The vaccines of most concern are MMR and Varivax, which are sensitive to elevated temperatures.
- Monitor temperatures; don't discard vaccines that are in refrigerators or freezers affected by temporary power outages; don't administer affected vaccines until you have discussed with public health authorities.

If the power outage is ongoing:

- Keep all refrigerators and freezers closed. This will help to conserve the cold mass of the vaccines.
- Continue to monitor temperatures if possible. Do not open units to check temperatures during the power outage. Instead, record the temperature as soon as possible after the power is restored, and the duration of the outage. This will provide data on the maximum temperature and maximum duration of exposures to elevated temperatures.
- If alternative storage with reliable power sources are available (i.e., hospital with generator power), transfer to that facility can be considered. If transporting vaccine, measure the temperature of the refrigerator(s) and freezer(s) when the vaccines are removed. If possible transport the vaccine following proper cold chain procedures for storage and handling or try to record the temperature the vaccine is exposed to **during transport.**

When power has been restored:

1. Record the temperature in the unit as soon as possible after power has been restored. Continue to monitor the temperatures until they reach the normal 2–8 degrees Celsius range in the refrigerator, or -15 degrees C or less in the freezer. Be sure to record the duration of increased temperature exposure and the maximum temperature observed.
2. If you receive vaccine from your state or local health department, they may be contacting you with guidance on collecting information on vaccine exposed to extreme temperatures.
3. If you are concerned about the exposure or efficacy of any of your vaccine stock, do not administer the vaccine until you have consulted your state or local health department.
4. Keep exposed vaccine separated from any new product you receive and continue to store at the proper temperature if possible.
5. Do not discard any vaccine that might have been exposed to increased or fluctuating temperatures. We will be working with the vaccine manufacturers to determine which vaccines may be viable.

For additional information about vaccine storage during a power outage, see the guidance provided by the CDC National Immunization Program or contact your state or local health department.

STAY SAFE IN EXTREME HEAT

Be aware of yours and others' risk for heat stroke, heat exhaustion, heat cramps and fainting. To avoid heat stress, you should follow CDC's heat safety tips. Stay Cool, Stay Hydrated, and Stay Informed.

Some people are more at risk of developing a heat-related illness than others. Be sure to check on people in these groups and follow tips to keep them safe.

- Older Adults (Aged 65+)
- **People with Diabetes**
- People with **other** Chronic Medical Conditions
- Outdoor Workers
- Infants & Children
- Low Income Households or households without air conditioning
- Athletes
- Pets are also at risk.

Heat stroke is the most serious heat illness. It happens when the body can't control its own temperature and its temperature rises rapidly. Sweating fails and the body cannot cool down. Body temperature may rise to 106°F or higher within 10 to 15 minutes. Heat stroke can cause death or permanent disability if emergency care is not given. Visit Warning Signs and Symptoms of Heat-Related Illness for more information on how to recognize symptoms and what to do if someone develops a heat-related illness.

For more information on heat-related illnesses and treatment, see the CDC Extreme Heat Web site. Information for workers can be found on the NIOSH heat stress web page.

DRINK CLEAN, SAFE WATER AND EAT SAFE FOOD

PREPARING FOR FOOD AND WATER NEEDS

Follow these steps to make sure you and your family have enough safe food and water (for drinking, cooking, bathing, etc.) available in the event of a disaster or emergency.

Prepare an Emergency Food Supply

A disaster can easily disrupt the food supply at any time, so plan to have at least a 3-day supply of food on hand. Keep foods that:

- Have a long storage life
- Require little or no cooking, water, or refrigeration, in case utilities are disrupted
- Meet the needs of babies or other family members who are on special diets
- Meet pets' needs
- Are not very salty or spicy, as these foods increase the need for drinking water, which may be in short supply

How to Store Emergency Food

When storing food, it is not necessary to buy dehydrated or other types of emergency food.

- Check the expiration dates on canned foods and dry mixes. Home-canned food usually needs to be thrown out after a year.
- Use and replace food before its expiration date.

Certain storage conditions can enhance the shelf life of canned or dried foods. The ideal location is a cool, dry, dark place. The best temperature is 40° to 70°F.

- Store foods away from ranges or refrigerator exhausts. Heat causes many foods to spoil more quickly.
- Store food away from petroleum products, such as gasoline, oil, paints, and solvents. Some food products absorb their smell.
- Protect food from rodents and insects. Items stored in boxes or in paper cartons will keep longer if they are heavily wrapped or stored in waterproof, airtight containers.

Preparing Food

Preparing food after a disaster or emergency may be difficult due to damage to your home and loss of electricity, gas, and water. Having the following items available will help you to prepare meals safely:

- Cooking utensils
- Knives, forks, and spoons
- Paper plates, cups, and towels
- A manual can- and bottle-opener
- Heavy-duty aluminum foil
- Propane gas or charcoal grill; camp stove
- Fuel for cooking, such as charcoal. (CAUTION: Only use charcoal grills or camp stoves outside of your home to avoid smoke inhalation and carbon monoxide poisoning.)

Prepare an Emergency Water Supply

- Store at least 1 gallon of water per day for each person and each pet. Consider storing more water than this for hot climates, for pregnant women, and for people who are sick.
- Store at least a 3-day supply of water for each person and each pet. Try to store a 2-week supply if possible.
- Observe the expiration date for store-bought water; replace other stored water every 6 months.
- Store a bottle of unscented liquid household chlorine bleach to disinfect your water and to use for general cleaning and sanitizing. Try to store bleach in an area where the average temperature stays around 70°F (21°C). Because the amount of active chlorine in bleach decreases over time due to normal decay, consider replacing the bottle each year.

Water Containers (Cleaning and Storage)

Unopened commercially bottled water is the safest and most reliable emergency water supply.

Use of food-grade water storage containers, such as those found at surplus or camping supply stores, is recommended if you prepare stored water yourself.

1. Before filling with safe water, use these steps to clean and sanitize storage containers:
2. Wash the storage container with dishwashing soap and water and rinse completely with clean water.
3. Sanitize the container by adding a solution made by mixing 1 teaspoon of unscented liquid household chlorine bleach in one quart of water.
4. Cover the container and shake it well so that the sanitizing bleach solution touches all inside surfaces of the container.
5. Wait at least 30 seconds and then pour the sanitizing solution out of the container.
6. Let the empty sanitized container air-dry before use OR rinse the empty container with clean, safe water that already is available.

Avoid using the following containers to store safe water:

- Containers that cannot be sealed tightly
- Containers that can break, such as glass bottles
- Containers that have ever held toxic solid or liquid chemicals, such as bleach or pesticides
- Plastic or cardboard bottles, jugs, and containers used for milk or fruit juices

For proper water storage:

- Label container as "drinking water" and include storage date.
- Replace stored water that is not commercially bottled every six months.
- Keep stored water in a place with a fairly constant cool temperature.
- Do not store water containers in direct sunlight.
- Do not store water containers in areas where toxic substances such as gasoline or pesticides are present.

AFTER THE STORM

Food may not be safe to eat during and after an emergency. Safe water for drinking, cooking, and personal hygiene includes bottled, boiled, or treated water. Your state, local, or tribal health department can make specific recommendations for boiling or treating water in your area.

Food: Throw away food that may have come in contact with flood or storm water, perishable foods, and those with an unusual odor, color, or texture. When in doubt, throw it out.

Water: Do not use water you suspect or have been told is contaminated to wash dishes, brush your teeth, wash and prepare food, wash your hands, make ice, or make baby formula.

FOOD

Foodborne illness, or food poisoning, is a risk from food contaminated from flood water and from perishable food not held at a safe temperature due to power outages. If foods of animal origin, especially raw meat and poultry, have not been held at a safe temperature, germs already present can grow to high numbers. Other foods not held at the right temperature can also spoil.

Do the following with food and containers that may have had contact with flood or storm water.

Throw away the following foods:

- Food that has an unusual odor, color, or texture. When in doubt, throw it out.
- Perishable foods (including meat, poultry, fish, eggs and leftovers) in your refrigerator when the power has been off for 4 hours or more.
- Canned foods or food containers that are bulging, opened, or damaged. Throw away the food if the container spurts liquid or foam when you open it or the food inside is discolored, moldy, or smells bad.
- Food not in packages or cans.
- Packaged food: Throw away food containers with screw-caps, snap-lids, crimped caps, twist caps, flip tops, and snap-open tops, as well as home-canned foods because they cannot be disinfected. Throw away food in cardboard containers, including juice/milk/baby formula boxes.

Thawed food that contains ice crystals can be refrozen or cooked. Freezers, if left unopened and full during a power outage, will keep food safe for 48 hours (24 hours if half full).

How to reuse commercially prepared cans and retort pouches (like flexible, shelf-stable juice and seafood packages):

- Remove labels if they are removable.
- Brush or wipe away dirt or silt.
- Wash cans and pouches with soap and water, using hot water if available.
- Rinse cans and pouches with water that is safe for drinking, if available.
- Sanitize cans and pouches in one of two ways. 1.) Place them in a solution of 1 cup (8 ounces/250 milliliters) of bleach in 5 gallons of water for 15 minutes. OR 2.) Submerge in a pot of water, bring to a boil, and continue boiling for 2 minutes.
- Re-label cans or pouches with a marker. Include the expiration date.
- Use food in reconditioned cans or pouches as soon as possible.

Store Food Safely

- While the power is out, keep the refrigerator and freezer doors closed as much as possible.

Feeding infants and young children

- Breastfed infants should continue breastfeeding. For formula-fed infants, use ready-to-feed formula if possible. If using ready-to-feed formula is not possible, it is best to use bottled water to prepare powdered or concentrated formula when your tap water is unsafe. If bottled water is not available, check with local authorities to find the status of your drinking water to see if boiling it will make it safe to drink. Use treated water to prepare formula only if you do not have bottled or boiled water.
- If water is contaminated with a chemical, boiling it will not remove the chemical or make it safe to consume.
- If you prepare formula with boiled water, let the formula cool sufficiently before giving it to an infant. Put a couple drops of formula on the back of your hand to see if it is too hot.
- Clean feeding bottles with bottled, boiled, or treated water before each use. Throw out bottle nipples or pacifiers that have been in contact with flood waters.
- Wash your hands before preparing formula and before feeding an infant. You can use alcohol-based hand sanitizer for sanitizing your hands if water is not available for handwashing.

Clean and sanitize food-contact surfaces

Throw out wooden cutting boards, baby bottle nipples, and pacifiers if they have come into contact with flood waters because they cannot be properly sanitized. Clean and sanitize food-contact surfaces in a four-step process:

1. Wash with soap and warm, clean water.
2. Rinse with clean water.
3. Sanitize by immersing for 1 minute in a solution of 1 cup (8 ounces or 250 milliliters) of chlorine bleach (5.25%, unscented) in 5 gallons of clean water.
4. Allow to air dry.

Note: Do not use your fireplace for cooking until the chimney has been inspected for cracks and damage. Sparks may escape into your attic through an undetected crack and start a fire.

WATER

Safe Drinking Water

- After an emergency, especially after flooding, drinking water may not be available or safe to drink for personal use.
- Do not use water you suspect or have been told is contaminated to wash dishes, brush your teeth, wash and prepare food, make ice, or make baby formula.
- Alcohol dehydrates the body, which increases the need for drinking water.
- Floods and other disasters can damage drinking water wells and lead to aquifer and well contamination. Flood waters can contaminate well water with livestock waste, human sewage, chemicals, and other contaminants which can lead to illness when used for drinking, bathing, and other hygiene activities.

Make Water Safe

Water often can be made safe to drink by boiling, adding disinfectants, or filtering.

IMPORTANT: Water contaminated with fuel or toxic chemicals will not be made safe by boiling or disinfection. Use a different source of water if you know or suspect that water might be contaminated with fuel or toxic chemicals.

Boil Water:

If you don't have safe bottled water, you should **boil water** to make it safe. Boiling is the surest method to make water safer to drink by killing disease-causing organisms, including viruses, bacteria, and parasites.

You can improve the flat taste of boiled water by pouring it from one clean, disinfected container to another and then allowing it to stand for a few hours, OR by adding a pinch of salt for each quart or liter of boiled water.

If the water is cloudy:

- Filter it through a clean cloth, paper towel, or coffee filter OR allow it to settle.
- Draw off the clear water.
- Bring the clear water to a rolling boil for one minute (at elevations above 6,500 feet, boil for three minutes).
- Let the boiled water cool.
- Store the boiled water in clean sanitized containers with tight covers.

If the water is clear:

- Bring the clear water to a rolling boil for one minute (at elevations above 6,500 feet, boil for three minutes).
- Let the boiled water cool.
- Store the boiled water in clean sanitized containers with tight covers.

Disinfectants:

If you don't have clean, safe, bottled water and if boiling is not possible, you often can make water safer to drink by using a disinfectant, such as unscented household chlorine bleach, iodine, or chlorine dioxide tablets. These can kill most harmful organisms, such as viruses and bacteria. However, only chlorine dioxide tablets are effective in controlling more resistant organisms, such as the parasite Cryptosporidium. If the water is contaminated with a chemical, adding a disinfectant will not make it drinkable.

To disinfect water:

Bleach comes in different concentrations. Make sure you know the concentration of bleach you are using before using to disinfect drinking water. It should be on the label.

- Clean and disinfect water containers properly before each use. Use containers that are approved for water storage. Do not use containers previously used to store chemicals or other hazardous materials.
- Filter water through a clean cloth, paper towel, or coffee filter OR allow it to settle, then draw off the clear water.

When using **5**-6% unscented liquid household chlorine bleach:

- Add a little less than 1/8 teaspoon (8 drops or about 0.5 milliliters) for each gallon of clear water (or 2 drops of bleach for each liter or each quart of clear water).
- If you do not have clear water or are not able to filter the water to make it clear, add a little less than ¼ teaspoon (16 drops, or about 1 milliliter) of bleach for each gallon of cloudy water (or 4 drops of bleach for each liter or each quart of cloudy water). Stir the mixture well.
- Let it stand for at least 30 minutes before using.
- Store the disinfected water in clean, disinfected containers with tight covers.

When using 8.25% unscented liquid household chlorine bleach:

- Add a little less than 1/8 teaspoon (6 drops or about 0.5 milliliters) of unscented liquid household chlorine (8.25%) bleach for each gallon of clear water (or 2 drops of bleach for each liter or each quart of clear water).
- If you do not have clear water or are not able to filter the water to make it clear, add 12 drops (about 1 milliliter) of bleach for each gallon of cloudy water (or 3 drops of bleach for each liter or each quart of cloudy water).

Filters:

Many portable water filters can remove disease-causing parasites such as *Cryptosporidium* and *Giardia* from drinking water.

- If you are choosing a portable water filter, try to pick one that has a filter pore size small enough to remove both bacteria and parasites. Most portable water filters do not remove bacteria or viruses.
- Carefully read and follow the manufacturer's instructions for the water filter. After filtering, add a disinfectant such as iodine, chlorine, or chlorine dioxide to the filtered water to kill any viruses and remaining bacteria.

Water Treatment Resources:

To learn more about water filters and treatments that can remove microorganisms such as viruses, bacteria, and parasites (such as Cryptosporidium), see the following resources:

- Making Water Safe in an Emergency
- A Guide to Water Filters
- A Guide to Drinking Water Treatment and Sanitation for Backcountry and Travel Use covers information on the effectiveness of various water treatment methods.
- A Guide to Commercially-Bottled Water and Other Beverages
- Emergency Disinfection of Drinking Water

Finding Emergency Water Sources

Alternative sources of clean water can be found inside and outside the home. DO NOT DRINK water that has an unusual odor or color, or that you know or suspect might be contaminated with fuel or toxic chemicals; use a different source of water.

The following are possible sources of water:

- Water from your home's water heater tank (part of your drinking water system, not your home heating system)
- Melted ice cubes made with water that was not contaminated
- Water from your home's toilet tank (not from the bowl), if it is clear and has not been chemically treated with toilet cleaners such as those that change the color of the water
- Liquid from canned fruit and vegetables
- Water from swimming pools and spas can be used for personal hygiene, cleaning, and related uses, but not for drinking.

Listen to reports from local officials for advice on water precautions in your home. It may be necessary to shut off the main water valve to your home to prevent contaminants from entering your piping system.

Outside the Home:

Water from sources outside the home must be treated as described in **Make Water Safe**. These include:

- Rainwater
- Streams, rivers, and other moving bodies of water
- Ponds and lakes
- Natural springs

Unsafe Water Sources

Never use water from the following sources:

- Radiators
- Hot water boilers (part of your home heating system)

- Water beds (fungicides added to the water and/or chemicals in the vinyl may make water unsafe for use)

Private Drinking Water Wells

Floods and other disasters can damage or contaminate wells. Dug wells, bored wells, and other wells less than 50 feet deep are more likely to be contaminated, even if damage is not apparent.

- After a disaster, it is safest to drink bottled water until you are certain that your water is free of contaminants and safe to drink.
- If extensive flooding has occurred or you suspect that the well may be contaminated, DO NOT drink the water. Use a safe water supply like bottled or treated water.
- Contact your local, state, or tribal health department for specific advice on wells and testing.

IMPORTANT: Fuel and other chemical releases and spills are common during floods.

- Water contaminated with fuel or toxic chemicals will **not** be made safe by boiling or disinfection. Until you know the water is safe, use bottled water or some other safe supply of water.
- If you suspect your water has fuel or chemical contamination, contact your local health department for specific advice.

For more information: Emergency Treatment for Wells

MEDICATIONS

Some drugs require refrigeration to keep their strength, including many liquid drugs.

- When the power is out for a day or more, throw away any medication that should be refrigerated, unless the drug's label says otherwise.
- If a life depends on the refrigerated drug, but the medications have been at room temperature, use them only until a new supply is available.
- Replace all refrigerated drugs as soon as possible.

Resources for people with chronic disease or disability

PROTECT YOURSELF FROM AIR POLLUTION

CDC defers to state health authorities and EPA regarding air pollution in Texas following Hurricane Harvey and in Florida, South Carolina, and Georgia following Hurricane Irma. We have not been involved in air sampling and therefore cannot address specific risks.

After a major storm, burning of debris, chemical releases, and other incidents can lead to poor air quality. Individuals with asthma, COPD, or heart disease and infants and children are most at risk from exposure to air pollution, but everyone can experience effects like eye, lung or throat irritation.

When news reports the EPA Air Quality Index, or other public announcements warn you that levels are high:

- Reduce the amount of time you spend outside and spend more time indoors, where pollution levels are usually lower.
- If you are cleaning up after storm damage try to do indoor work when outdoor air pollution is bad and do outdoor work when pollution levels are lower, usually in the morning and evening.
- Choose easier outdoor activities (like walking instead of running) so you don't breathe as hard.
- Avoid busy roads and highways where air pollution is usually worse because of emissions from cars and trucks.

Odor:

An odor is caused by a substance in the air that you can smell. Odors, or smells, can be either pleasant or unpleasant. In general, most substances that cause odors in the outdoor air are not at levels that can cause serious injury, long-term health effects, or death. However, odors may affect your quality of life and sense of well-being.

Not everyone reacts to environmental odors the same way. In general, if you are young or female, you may be more sensitive to odors. If you don't smoke, you are usually more sensitive to odors than smokers. If you suffer from depression and anxiety disorders, or have migraines, allergies, asthma, and other chronic lung conditions, you may feel worse when you smell unpleasant odors over a long time.

You may have signs and symptoms when exposed to environmental odors, but the symptoms usually go away when the odor is gone. The most common symptoms from environmental odors are headache and nausea.

You can reduce your exposure to odors by

- Exercising indoors during days with more environmental odors
- Staying indoors when your allergies, asthma, and/or chronic lung problems are acting up
- Leaving the area for a few hours if possible

For more information about environmental odors, please contact the Agency for Toxic Substances and Disease Registry (ATSDR) at 1-800-CDC-INFO (236-4636) or visit the environmental odors website: www.atsdr.cdc.gov/odors

COPING WITH DISASTER

SAMHSA's Disaster Distress Hotline: 1-800-985-5990 (TTY for deaf/hearing impaired: 1-800-846-8517) or text TalkWithUs to 66746

It is natural to feel stress, anxiety, grief, and worry during and after a disaster. Everyone will react differently and your own feelings will change throughout the emergency response. Notice and accept how you feel. Taking care of your emotional health during an emergency will help you think clearly and

react to the urgent needs to protect yourself and your family during an emergency. Self-care during an emergency will help your long-term healing.

Look out for these common signs of distress:

- Feelings of shock, numbness, and disbelief
- Changes in energy and activity levels
- Difficulty concentrating
- Changes in appetite
- Sleeping problems
- Nightmares and upsetting thoughts and images
- Feeling anxious or fearful
- Physical reactions, such as headaches, body pains, stomach problems, and skin rashes
- Chronic health problems can get worse
- Changes in use of alcohol, tobacco, or other drugs
- Anger or short-temper

If you experience these feelings or behaviors for several days in a row and are unable to carry out normal responsibilities because of them, seek professional help.

Take the following steps to cope with a disaster:

- Stay informed-When you feel that you are missing information, you may become more stressed or anxious. Watch, listen to, or read the news for updates from officials. Be aware that there may be rumors during a crisis. Turn to reliable sources of information
- Take care of your body. Eat healthy well-balanced meals, exercise regularly, get plenty of sleep, and **avoid alcohol, tobacco and other drugs.** Learn more about wellness strategies for mental health.
- Take breaks- Make time to unwind and remind yourself that strong feelings will fade. Take breaks from watching, reading, or listening to news stories. It can be upsetting to hear about the crisis and see images repeatedly. Try to do some other activities you enjoy to return to your normal life and check for updates between breaks.
- Connect with others- Share your concerns and how you are feeling with a friend or family member. Maintain healthy relationships and build a strong support system.
- **Seek help when needed-** If distress is impacting activities of your daily life for several days or weeks, talk to a clergy member, counselor, or doctor or contact the **SAMHSA helpline**.
    - Call 1-800-985-5990 ; TTY for deaf/hearing impaired: 1-800-846-8517
    - Text TalkWithUs to 66746.
    - Spanish speakers in the US can call 1-800-985-5990 or text HÁBLANOS to 66746.
    - Spanish speakers in Puerto Rico or the US Virgin Islands can call or text HÁBLANOS to 1-212-461-4635.

Helping Children Cope

Children and youth may also have a difficult time during or after an emergency. Some young people react right away, while others may show signs of difficulty much later. Take time to talk to your children about the disaster, limit their exposure to media coverage of the event, including social media, and as soon as possible, return to and maintain a healthy routine.

SAMHSA guide for parents, caregivers, and teachers

Children may not say how they are feeling during a crisis. Explain the situation, answer questions, and reassure them they are loved.

Children are less likely to say that they are feeling stressed but will show signs through their behaviors. Infants and young children may cry more than usual, want to be held more, and become fearful about being separated from their parent/caregiver. Adolescents and teenagers may deny that they are upset or may do more risky things.

The following are some ways to help children cope:

- Set a good example. Take care of yourself, including exercising and practicing healthy eating habits.
- Encourage children to ask questions. Get down at eye level and speak in a calm, gentle voice using words they can understand.
- Maintain a strong connection and show them they are loved.
- Listen for any rumors children might hear at school or on social media and help explain the correct information to them.
- Tell children it is normal to be upset. Let them know that it's not their fault.

VULNERABLE GROUPS

PREGNANT WOMEN

After a hurricane many people are affected, here are some tips on how to protect yourself and your baby.

If you do get sick, talk with a healthcare provider right away.

- Explain that you are pregnant or think you might be pregnant.
- Some infections might harm your growing baby. The sooner you get the care you need, the better.
- While you are sick, drink plenty of clean water and follow the doctor or healthcare provider's orders.
- Drinking lots of clean water and resting is very important for all pregnant women, especially when they are sick.

Before you start taking any medicines, even ones that you can buy at the store, talk with a healthcare provider.

- Make sure to tell the doctor or nurse that you are pregnant or might be pregnant.
- Some medicines are not good for women to take when they are pregnant, but others are okay.
- If you are already taking a medicine, talk to your doctor or healthcare provider before stopping the medicine.

- Using generators, kerosene heaters, grills, or camp stoves indoors can lead to carbon monoxide poisoning. Never use a generator, pressure washer, or any gasoline-powered engine inside your home, basement, or garage or less than 20 feet from any window, door, or vent.
- When using a generator, use a battery-powered or battery backup carbon monoxide detector in your home.
- Carbon monoxide is a gas with no color or smell. It is a poison to you and your baby. If you breathe it, it can make you very sick. It can even kill you. Carbon monoxide is a poison for anyone, whether pregnant or not.
- If you've breathed carbon monoxide, you might feel like throwing up or feel very tired.
- If you are having problems and think you were exposed to carbon monoxide, you should tell a doctor or nurse.

If possible, do not touch or walk in flood water.

- If you do touch the water, make sure to use soap and clean water to wash the parts of your body that came in contact with the water.
- Do not swallow any of the flood water and be careful to keep it away from your mouth.
- If you feel sick in any way, talk to a doctor or nurse right away.
- Remember to explain that you are pregnant or think you might be pregnant.

If you are pregnant, you should follow steps to prevent mosquito bites to reduce your risk for illnesses spread by mosquitoes.

- Wear long-sleeved shirts and long pants.
- Stay and sleep in places with air conditioning or that use window and door screens.
- Use EPA-registered insect repellents with one of the following active ingredients:
- DEET, picaridin, IR3535, oil of lemon eucalyptus, para-menthane-diol, or 2-undecanone
- Once a week, empty and scrub, turn over, cover, or throw out items that hold water, such as trash containers, tires, buckets, toys, planters, flowerpots, birdbaths or pools.

Stress can cause problems like having your baby come too soon or having a baby that is under weight. It is important to choose healthy ways to deal with your stress.

- Understand that the stress you are feeling is normal.
- Get plenty of rest – it is important for you and your baby.
- Find healthy ways to relax. Taking just a few minutes a couple times during the day to close your eyes in a quiet place can help. Reading, listening to music, or writing in a journal can also help you to relax.
- Avoid the urge to drink alcohol, smoke or take drugs as ways of coping with stress.
- Talk to friends, family members, or clergy for comfort and share your experiences and feelings with them.
- If you feel like you can't deal with your stress or that your friends or family can't help, talk to a counselor, doctor or nurse.

For more information about what you have read on this form please call Mother to Baby at 1-866-626-6847.

BREASTFEEDING MOTHERS

Breastfeeding is recommended for optimal infant nutrition. Breastfeeding remains the best infant feeding option in a natural disaster situation. Even when experiencing diarrhea, food-borne illness, or extreme stress, breastfeeding mothers continue to produce ample milk for their babies.

Women and health professionals who need additional information about the effects of exposures, such as stress, related to a disaster on pregnancy or breastfeeding can call the Organization of Teratology Information Specialists (OTIS) at 1-866-626-OTIS or 1-866-626-6847.

INFANTS

If you are away from your home, there are steps you can take to help your baby sleep safely. To reduce the risk of sudden infant death syndrome (also known as SIDS) and other sleep-related causes of infant death, take the following actions:

- Place your baby on his or her back for all sleep times—for naps and at night.
- Use a firm sleep surface designed for babies, such as a mattress in a safety-approved crib or portable crib, covered by a fitted sheet.
- Have the baby share your room, not your bed. Your baby should not sleep on an adult bed, cot, air mattress or couch, or on a chair alone, with you, or with anyone else.
- Keep soft objects, such as pillows and loose bedding, out of your baby's sleep area.
- Do not smoke or allow smoking around your baby.
- Keep any available medical and immunization records with you, if possible.
- **Infants are among those most at risk from exposure to air pollution, but everyone can experience effects like eye, lung or throat irritation.**
- **Infants and young children may cry more than usual, want to be held more, and become fearful about being separated from their parent/caregiver.**

- **See 'Feeding Infants and Young Children' section above in 'Food' section for safe feeding tips.**

CHILDREN

- Children may be very frightened and need help coping after a storm.
- After a storm, help children to understand that they are safe and secure by talking, playing and doing other family activities with them.
- Visit nctsn.org/trauma-types/natural-disasters for more ideas on how to reassure children they are safe after a major storm.
- Use tips to keep children safe in the aftermath.
- Prevent children from playing in or around floodwaters. It doesn't take long or much water for children to drown. Learn more online at www.ready.gov/floods.
- Talk to your children about where you are evacuating, explain that you are doing so to keep them safe
- If you are evacuating, make sure you take your and your family's meds
- If you are separated from your child, make sure he or she knows how to get in touch with you
- Make sure your child's emergency contact info is up to date with their school
- Floods pose special danger to children. Watch for dangerous situations and learn how to keep kids safe.
- Never leave young children alone or allow them to play in damaged buildings or in areas that might be unsafe.
- **Young children may cry more than usual, want to be held more, and become fearful about being separated from their parent/caregiver.**
- Children may be afraid to sleep alone and may want to sleep with a parent or another person. Be as flexible as you can.
- Children will feel more secure if you can stick to a routine as much as possible - eat/sleep at the same time as always.
- Make sure flood-damaged surfaces are disinfected to protect your children from exposure to toxins.
- Some children may be quiet or withdrawn. Others may become upset easily, cry frequently, and/or become angry. Encourage children to talk.
- Children with **special health care needs such as** autism spectrum disorder may have difficulties with changes in routine - help them anticipate changes/tell them what might happen. It may be helpful to use stories.
- Parents spending much of their time cleaning up and/or rebuilding their lives and homes may cause children to feel neglected. Involve them. This will build life skills.
- Keep any available medical and immunization records with you, if possible.
- **Children are among those most at risk from exposure to air pollution, but everyone can experience effects like eye, lung or throat irritation.**

- **See 'Feeding Infants and Young Children' section above in 'Food' section for safe feeding tips.**

OLDER ADULTS

Keep a list of medications, vaccination records, allergies, special equipment **such as oxygen, hearing aids, etc.**, names and numbers of doctors, pharmacists and family members along with eyeglasses, medications and walking aids, such as a cane or walker. Have these items ready to take with you if you need to evacuate.

Friends, family and neighbors should check on older adults to make sure they are okay and getting the assistance they need.

Older adults physiologically do not adjust as well as well as young people to sudden changes in temperature. They are more likely to have chronic medical conditions and take prescription medicines that affect the body's ability to control its temperature or sweat.

Planning considerations when preparing for and protecting older adults in an emergency.

- Use shelter intake procedures to identify vulnerable older adults; the shelter intake process can be an effective way for emergency management officials to identify older adults in the community who may need special assistance due to a physical or cognitive impairment.
- Capture information on older adults in shelters: demographics including reliance on caregivers, prevalence of chronic conditions including dementia and Alzheimer's disease, functional and access needs, and proportion that rely on services through organizations for independence.
- Shelter facilities should meet the needs of this population, such as accessible to people who need help or certain accommodations to perform routine care or activities of daily living (e.g., to use the bathroom, bathe, dress, groom, or get into and out of bed), accessible to people who have certain disabilities, such as those who use a wheelchair or walker, and include signs and other forms of communication that can be understood by older adults.

More resources:

https://www.cdc.gov/phpr/documents/aging.pdf

https://www.cdc.gov/aging/emergency/planning_tools/planning_guides.htm

https://www.cdc.gov/disasters/extremeheat/older-adults-heat.html

PEOPLE WITH DISABILITIES

- Helping someone in wheelchair? They may be able to transfer themselves. Be respectful of their independence.

- A car battery can charge an electric wheelchair during power outage. More tips for people with disabilities.
- If someone is helping you shelter because you have a disability, explain how they can best assist you.
- Always ask a person with a disability how you can best assist them to shelter or cope.
- **Children and adults with autism spectrum disorder may have difficulties with changes in routine - help them anticipate changes/tell them what might happen. It may be helpful to use stories.**

PEOPLE WITH CHRONIC ILLNESS

- Resources for people with blood disorders https://www.cdc.gov/ncbddd/disasters/blood.html
- **Resources for people with diabetes: https://www.cdc.gov/diabetes/ndep/people-with-diabetes/emergency.html**
- Resources for people with other chronic conditions: https://www.cdc.gov/disasters/chronic.html
- Resources for people with epilepsy and seizure disorders: https://www.cdc.gov/epilepsy/emergency/index.htm
- Resources for people with asthma: https://www.cdc.gov/disasters/asthma_control.html

PET SAFETY

CDC recommends the following guidance regarding Pet Safety in Emergencies:

- Make a Plan - Disasters can happen without warning, so be prepared for the event.
- Sheltering in Place - When sheltering at home with your pet, make sure the room chosen is pet-friendly
- If you need to evacuate, contact your local emergency management office and ask if they offer accommodations for owners and their pets.
- If accommodations are needed for your pet(s):
    - Contact local veterinary clinics, boarding facilities, and local animal shelters. Visit the Humane Society website to find a shelter in your area. .
    - Contact family or friends outside the evacuation area.
    - Contact a pet-friendly hotel, particularly along evacuation routes.
- Prepare a pet disaster kit - prepare a disaster kit for your pet(s), so evacuation will go smoothly for your entire family. Ask your veterinarian for help putting it together.

- Protect yourself from injury and illness - disasters are stressful for humans and pets alike. Practice safe handling of your pet, because your pet may behave differently during a stressful situation.
- Diseased pets can transmit to people during a natural disaster - natural disasters can contribute to the transmission of some diseases. Exposure to inclement weather conditions, stagnant water, wildlife or unfamiliar animals, and overcrowding can put your pet at risk for getting sick. Some of these illnesses can be transmitted to people.

What if I am separated from my pet?

- Make sure that your family is in a safe location before you begin your search.
- If you are in a shelter that houses pets, inform one of the pet caretakers. Give the pet caretaker your pre-made missing pet handout.
- Once you have been cleared to leave the shelter and return home, contact animal control about your lost pet.
- For more information about pet safety during an emergency, please visit online: https://www.cdc.gov/features/petsanddisasters/index.html

CDC'S ACTIVITIES

CDC's Emergency Operations Center (EOC) is activated to bring together CDC and ATSDR staff to work efficiently to support the local, state, federal and global response to public health needs in the aftermath of Hurricanes Harvey, Irma, and Maria.

During emergency events, the states lead response efforts and the federal government provides expert assistance when a formal request has been made by the affected state.

Internationally, countries lead their own response efforts and can request assistance from the United States government.

CDC and ATSDR have deployed staff to provide medical assistance and help coordinate additional response activities.

STRATEGIC NATIONAL STOCKPILE

When pharmaceutical and medical supplies are needed in disaster areas, CDC and HHS work to help fulfill requests in a number of ways:

- **CDC and HHS deploy Federal Medical Stations and Disaster Medical Assistance Teams. These Federal Medical Stations are transportable healthcare facilities. Each Federal Medical Station comes with a three-day supply of medical and pharmaceutical resources to sustain up to 250 patients.**
- **CDC's Strategic National Stockpile (SNS) maintains limited stock of general medical/surgical supplies that may be used to resupply health care facilities as needed, when these products are not commercially available.**

- **CDC also has the capacity, through the SNS, to engage commercial supply chain partners to help them meet needs in affected areas.**
- **CDC also works with pharmacies to help identify obstacles and develop solutions to help patients access pharmaceuticals.**
- **Local retail, healthcare and public health officials or deployed responders (not CDC) provide direct intervention in pharmacy, clinical or public health dispensing to individuals.**

CDC is working through the response incident management structure to receive and fill requests for resource requirements in Puerto Rico and the US Virgin Islands.

As of 10/5/2017, no pharmaceutical requirements beyond FMS sets have been received. Five Federal Medical Stations have been deployed to Puerto Rico.

ADDITIONAL WEB AND SOCIAL MEDIA RESOURCES

- https://www.cdc.gov/disasters/hurricanes/hurricane_harvey.html
- https://www.cdc.gov/disasters/hurricanes/index.html
- https://www.cdc.gov/nceh/toolkits/hurricanes/default.html
- https://www.cdc.gov/disasters/floods/index.html
- https://www.cdc.gov/nceh/toolkits/floods/default.html
- https://www.cdc.gov/disasters/hurricanes/pdf/infographic-be-ready-hurricanes.pdf
- https://www.cdc.gov/disasters/hurricanes/educationalmaterials.html
- https://www.cdc.gov/phpr/infographics/br-floods.htm
- https://www.cdc.gov/disasters/mold/report/pdf/2005_moldtable5.pdf
- http://www.nws.noaa.gov/os/water/tadd/

FOR MORE INFORMATION

- **CDC website**: http://www.cdc.gov
- **CDC Harvey website:** https://www.cdc.gov/disasters/hurricanes/hurricane_harvey.html
- **CDC Irma website:** https://www.cdc.gov/disasters/hurricanes/hurricane_irma.html
- **CDC Maria website:** https://www.cdc.gov/disasters/hurricanes/hurricane_maria.html
- **CDC emergency website**: https://www.emergency.cdc.gov
- **CDC-INFO by phone:**

- Monday - Friday
  8:00 a.m. - 8:00 p.m. EST
- 800-CDC-INFO
  (800-232-4636)
  TTY 888-232-6348

- **CDC-INFO by email:** https://wwwn.cdc.gov/dcs/ContactUs/Form
- **Related Websites**
  - **FEMA website**: https://www.fema.gov
  - **FDA website:** https://www.fda.gov

From: Bryant, Jeffrey (Jeff) (CDC/OPHPR/DEO)
Sent: 3 Nov 2017 07:54:24 -0400
To: Vineyard, Michael (OS/ASPR/OEM)
Cc: Schuchat, Anne MD (CDC/OD);Redd, Stephen (CDC/OPHPR/OD);Berger, Sherri (CDC/OCOO/OD);Howgate, James (CDC/OD/OCS)
Subject: FW: Lab table for SR. Leaders
Attachments: Lab Tracking, Summary Report. CDC. 10.28.2017. FOUO.docx.pdf

Mike, here is the PR lab report through 28 October 2017 (b)(5) (b)(5) Thanks.
J

(b)(5)

From: Bryant, Jeffrey (Jeff) (CDC/OPHPR/DEO)
Sent: 6 Nov 2017 07:14:56 -0500
To: Vineyard, Michael (OS/ASPR/OEM)
Cc: Redd, Stephen (CDC/OPHPR/OD);Berger, Sherri (CDC/OCOO/OD);Schuchat, Anne MD (CDC/OD);Howgate, James (CDC/OD/OCS)
Subject: FW: lepto weekly numbers
Attachments: Lab Tracking, Summary Report. CDC. 11.04.2017. FOUO.pdf

Mike, weekly lab tracking report attached. (b)(5)

(b)(5)

Thanks.
J

(b)(5)

From: Bryant, Jeffrey (Jeff) (CDC/OPHPR/DEO)
Sent: 20 Nov 2017 18:31:13 -0500
To: Fantinato, Jessica (OS/ASPR/OEM);Vineyard, Michael (OS/ASPR/OEM)
Cc: Redd, Stephen (CDC/OPHPR/OD)
Subject: FW: lepto weekly numbers
Attachments: Lab Tracking, Summary Report. CDC. 11.18.2017. FOUO.pdf

Jessica/Mike, weekly PR lab report (b)(5) Thanks.
J

(b)(5)

From: Bryant, Jeffrey (Jeff) (CDC/OPHPR/DEO)
Sent: 13 Nov 2017 11:03:20 -0500
To: Vineyard, Michael (OS/ASPR/OEM)
Cc: Redd, Stephen (CDC/OPHPR/OD);Berger, Sherri (CDC/OCOO/OD);Schuchat, Anne MD (CDC/OD);Howgate, James (CDC/OD/OCS);Knutson, Donna (CDC/ONDIEH/NCEH)
Subject: FW: Weekly Numbers
Attachments: Lab Tracking, Summary Report. CDC. 11.12.2017. FOUO.PDF
Importance: High

Mike, weekly PR lab report (b)(5)
J

(b)(5)

From: Fitzgerald, Brenda (CDC/OD)
Sent: 5 Oct 2017 18:01:22 -0400
To: Kadlec, Robert (OS/ASPR/IO)
Cc: Redd, Stephen (CDC/OPHPR/OD)
Subject: Fwd: Hurricane Response PH Issues
Attachments: Hurricane Response PH Issues.docx

Here are our first concerns for the Sec and VP visit tomorrow. Let you know as we learn more

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From: Redd, Stephen (CDC/OPHPR/OD)
Date: October 5, 2017 at 5:55:23 PM EDT
To: Fitzgerald, Brenda (CDC/OD)
Subject: Hurricane Response PH Issues

Preliminary report from the team as discussed.

Hurricane Public Health Response Issues

1. Epi concerns. Need a strong surveillance structure similar to other hurricane responses

- Inability to proactively respond to PH needs due to lack of systematic disease data collection and surveillance
- Ad hoc reports of animal bites, TB cases, scabies, gastroenteritis, and conjunctivitis have all been noted in the last few days. Extent unknown, locations unclear.
- Specific priorities: -Communicable diseases, - Mental health, - At risk populations
- Syndromes of concern: gastrointestinal disease; respiratory (e.g., influenza); jaundice (viral and bacterial causes of hepatitis, including hepatitis A and leptospirosis); vector-borne diseases
- Providing support and assistance to augment infectious disease and lab needs to be a priority
- CDC is working with PRDH to define the epidemiologic, laboratory and vector control materials, staffing, and strategies required to conduct disease surveillance in hospitals and shelters, and best mitigate the risk of infectious disease outbreaks.

Strategy: Target surveillance to ED/hospitals and shelters; provide epi support to establish tools and conduct data collection in collaboration with PRDH Epi teams; analyze and review data daily and generate daily reports for meaningful and potentially proactive public health action.

2. Public Health Lab concerns.

- Confirmed with PH lab in PR that the 4 public health labs (TB, rabies, water lab, clinical bacteriology) need additional generators to establish operations. These labs are not on the radar as critical and thus far have not been prioritized.
- Lab capacity still down – need for generators has been identified to reestablish PH lab functions
- 2 additional generators needed to support these 4 labs that are on the same floor in the same building to help get this capacity up and running. This will allow PRDH to initiate critical testing that can improve major aspects of this response.

3. Infection Control concerns. General hospital assessments have been conducted for basic functionality by IRCT teams. The assessment conducted were very high order and did not provide specificity on issues such as waste management, central processing, and other key issues.

- No formal assessment of infection control in healthcare facilities have been conducted for facilities that are back on line, to ensure safe provision of care.
- Additional assessments are being planned by ASPR and FEMA. This is in very early stages.
- CDC has requested that DHQP expertise be at the table for these discussion and be part of the teams deployed to provide existing tools and expertise that exist at CDC to conduct these assessment.

4. Immunization. Requests being generated to provide PRDH with additional medical supplies for this response including vaccines. These are being drafted by PRDH lead epi and CDC reps on the ground.

- Lists of vaccine products needed for PR have being generated. These have not been reconciled with the VFC staff in PR or CDC immunization experts.
- Engaged CDC LNO in PR IRCT to engage immunization program on any draft recommendations and encouraged them to connect with PRDH to confirm storage and management of vaccines as well as ability of PR immunization staff to support vaccination programs.

From: Wortman, Eric (CDC/OD/CDCWO)
Sent: 13 Dec 2017 10:51:04 -0500
To: Hayes, Sean (HHS/ASL);Kemper, Laura (HHS/ASL)
Cc: Wolfe, Mitchell (CDC/OD/CDCWO);Brand, Anstice M. (CDC/OD/CDCWO);Bradsher, Kris (HHS/ASL);Vandegrift, Serina (OS/ASPR/COO)
Subject: RE: 10.24.17 O&I Hearing Questions for the Record
Attachments: 10.24.17 QFRs_Redd.pdf, QFRs from Dr. Redd Oct 24th Hearing 120417.docx

Good morning, ASL colleagues –
Checking in regarding the draft QFR's CDC provided from Dr. Redd early this month for the October E&C, O&I hearing. Wanted to let you know that one of our staff in Puerto Rico received an inquiry from someone at ASPR to draft a response to Castor #2 (begins "Physicians have told me….) with a deadline of today. I explained to our staff that we already provided this response in our draft QFR's and promised to loop back with you to ensure there were no loose ends. I've looped in Serina w/ASPR for awareness as well.
We know HHS will edit and combine our draft responses with those of other HHS witnesses where necessary. Please let us know if you have any questions or comments.
Eric
Eric Wortman
CDC Washington
Phone: 202-245-0616

From: Wortman, Eric (CDC/OD/CDCWO)
Sent: Monday, December 4, 2017 12:23 PM
To: Hayes, Sean (HHS/ASL) ; Kemper, Laura (HHS/ASL)
Cc: Mitchell Wolfe (CDC/OD/CDCWO) (msw6@cdc.gov) ; Brand, Anstice M. (CDC/OD/CDCWO) ; Bradsher, Kris (HHS/ASL)
Subject: FW: 10.24.17 O&I Hearing Questions for the Record

Hi, ASL colleagues –

Attached please find CDC's responses to the QFR's form Dr. Redd's hearing before O&I on October 24th. Please let us know if you have any questions as these go through clearance.
Eric
Eric Wortman
CDC Washington
Phone: 202-245-0616

From: Fulling, Ali [mailto:Ali.Fulling@mail.house.gov]
Sent: Thursday, November 9, 2017 3:28 PM
To: Hayes, Sean (HHS/ASL) <Sean.Hayes@hhs.gov>; Kemper, Laura (HHS/ASL) <Laura.Kemper@hhs.gov>; Richman, Karyn (CDC/OD/CDCWO) <ygn7@cdc.gov>
Subject: 10.24.17 O&I Hearing Questions for the Record

Good afternoon,
A copy of Rear Admiral Redd's questions for the record from the October 24, 2017, Subcommittee on Oversight and Investigations hearing, "Examining HHS's Public Health Preparedness for and Response to the 2017 Hurricane Season" are attached to this email. You will also receive them in hard copy form by mail. Please contact me with any questions or concerns, and thank you in advance for your help.
Thank you,
Ali Fulling | Legislative Clerk
U.S. House Committee on Energy and Commerce
(202) 225-2927 (main)

GREG WALDEN, OREGON
CHAIRMAN

FRANK PALLONE, JR., NEW JERSEY
RANKING MEMBER

ONE HUNDRED FIFTEENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE
2125 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515–6115
Majority (202) 225–2927
Minority (202) 225–3641

November 9, 2017

Rear Admiral Stephen C. Redd, MD
Director
Office of Public Health Preparedness and Response
Centers for Disease Control and Prevention
1600 Clifton Road
Atlanta, GA 30329

Dear Admiral Redd:

Thank you for appearing before the Subcommittee on Oversight and Investigations on Tuesday, October 24, 2017, to testify at the hearing entitled "Examining HHS's Public Health Preparedness for and Response to the 2017 Hurricane Season."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. The format of your responses to these questions should be as follows: (1) the name of the Member whose question you are addressing, (2) the complete text of the question you are addressing in bold, and (3) your answer to that question in plain text.

To facilitate the printing of the hearing record, please respond to these questions with a transmittal letter by the close of business on Tuesday, November 28, 2017. Your responses should be mailed to Ali Fulling, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, DC 20515 and e-mailed in Word format to Ali.Fulling@mail.house.gov.

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,

Greg Walden

Greg Walden
Chairman

cc: The Honorable Diana DeGette, Ranking Member, Subcommittee on Oversight and Investigations

Attachment

Attachment—Additional Questions for the Record

The Honorable Greg Walden

1. According to the Centers for Disease Control and Prevention's (CDC) testimony on October 24, 2017, laboratories in Puerto Rico are not able to conduct any public health tests because of damage sustained during Hurricane Maria. As a result, the CDC is lending support and arranging clinical specimens for suspected priority infectious diseases—such as tuberculosis, leptospirosis, rabies, influenza, and salmonella—to be sent to the U.S. mainland for testing. To date, how many specimens has CDC sent to the U.S. mainland for testing?

    a. Approximately how long does it take for CDC to receive a diagnostic result for the samples it sends to be tested on the U.S. mainland?

    b. What, if any, infectious diseases have been detected through the testing of these specimens?

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2. What disease risks have been detected by CDC's National Syndromic Surveillance Program in the affected regions?

3. During the Agency's hurricane response efforts, has CDC identified any scarcities of medical supplies, such as vaccines, that could hinder the public health response efforts? If so, could you please elaborate?

The Honorable Gus Bilirakis

1. Can you discuss public health surveillance post-storm?

    a. What public health and health care delivery challenges still exist?

    b. Have previous public health hazards (like Zika) been heightened? If so, how do we proactively address during our recovery process?

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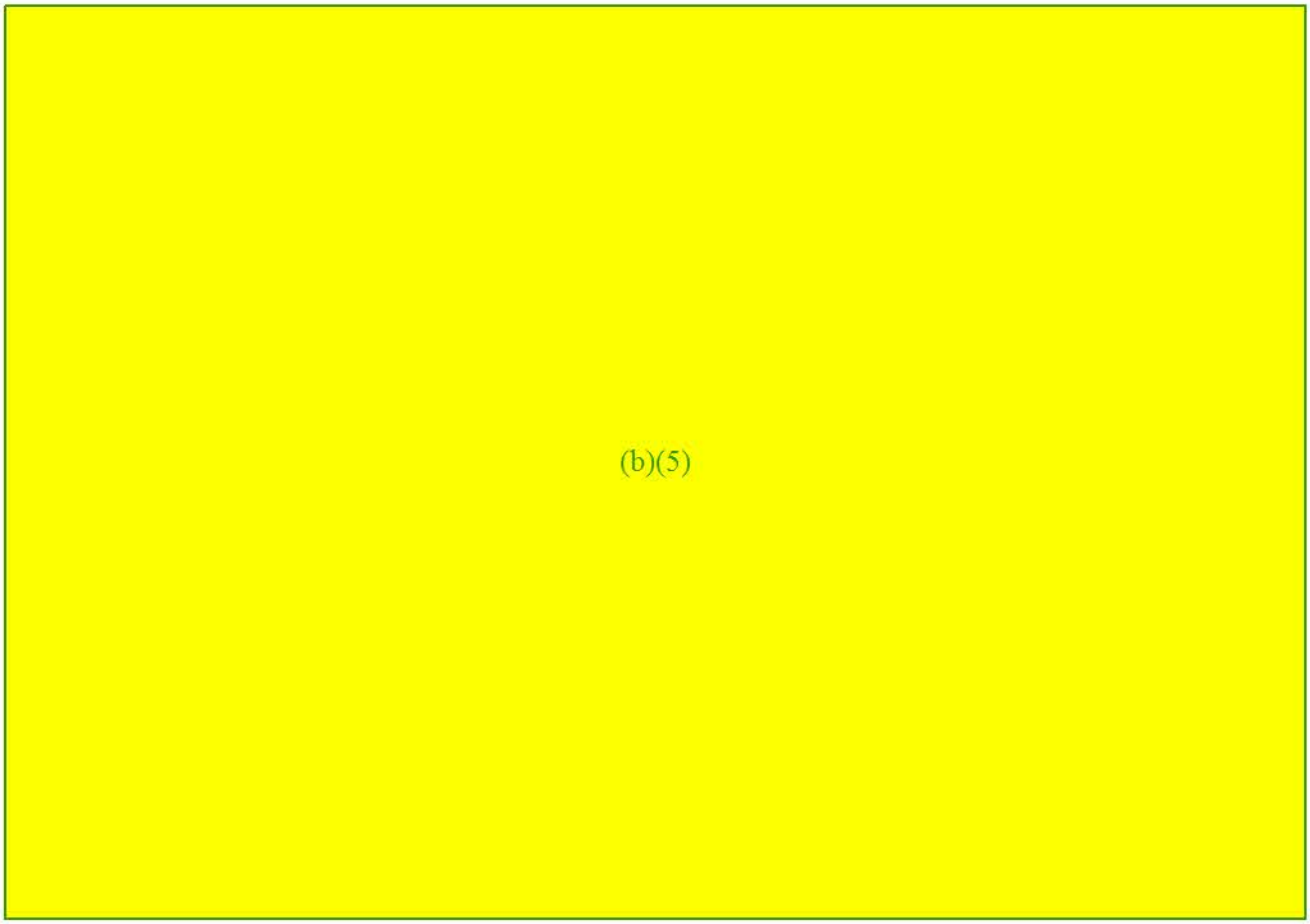

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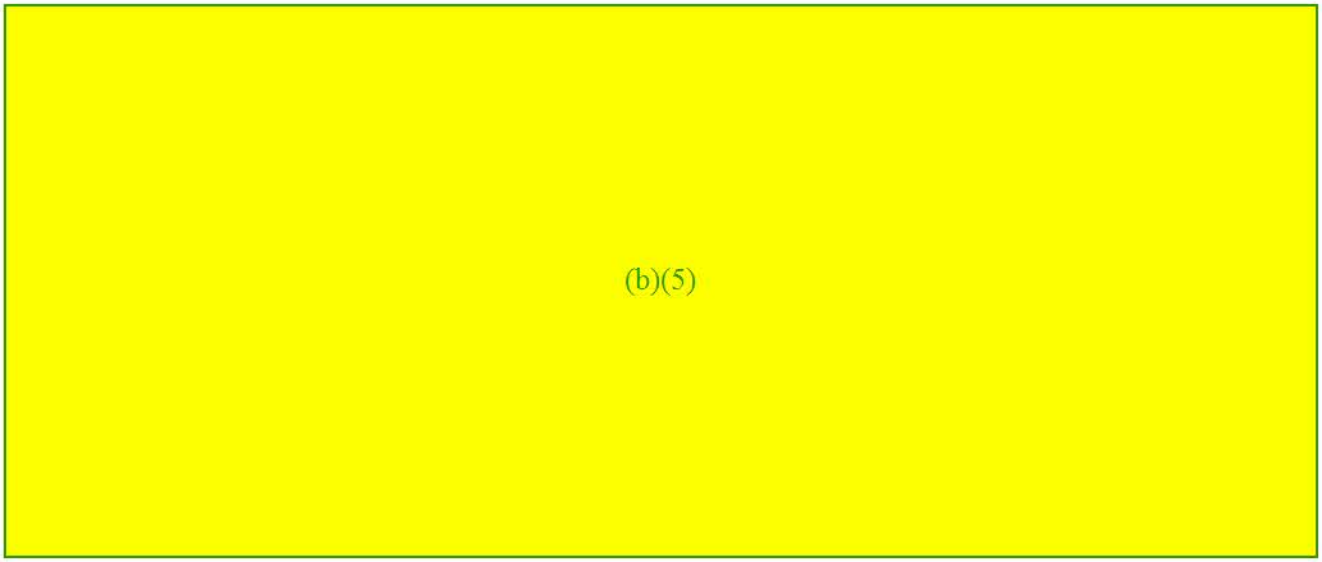

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(b)(5)

From: Wortman, Eric (CDC/OD/CDCWO)
Sent: 18 Jan 2018 14:28:13 -0500
To: Bradsher, Kris (HHS/ASL);Hayes, Sean (HHS/ASL);Kemper, Laura (HHS/ASL)
Cc: Twomey, John K. (HHS/ASL);Brand, Anstice M. (CDC/OD/CDCWO);Wolfe, Mitchell (CDC/OD/CDCWO)
Subject: RE: 10.24.17 O&I Hearing Questions for the Record
Attachments: 10.24.17 QFRs_Redd.pdf, QFRs from Dr. Redd Oct 24th Hearing 120417.docx

Thanks, Kris – Looping in my leadership for awareness.
Eric

From: Bradsher, Kris (HHS/ASL)
Sent: Thursday, January 18, 2018 2:20 PM
To: Hayes, Sean (HHS/ASL) ; Kemper, Laura (HHS/ASL)
Cc: Wortman, Eric (CDC/OD/CDCWO) ; Twomey, John K. (HHS/ASL)
Subject: FW: 10.24.17 O&I Hearing Questions for the Record
Importance: High

Hi Sean and Laura,
Eric with CDC/W asked for the status of these QFRs.
Thanks,
Kris

From: Wortman, Eric (CDC/OD/CDCWO) [mailto:ltr3@cdc.gov]
Sent: Monday, December 04, 2017 12:23 PM
To: Hayes, Sean (HHS/ASL); Kemper, Laura (HHS/ASL)
Cc: Wolfe, Mitchell (CDC/OD/CDCWO); Brand, Anstice M. (CDC/OD/CDCWO); Bradsher, Kris (HHS/ASL)
Subject: FW: 10.24.17 O&I Hearing Questions for the Record

Hi, ASL colleagues –

Attached please find CDC's responses to the QFR's form Dr. Redd's hearing before O&I on October 24th.
Please let us know if you have any questions as these go through clearance.
Eric
Eric Wortman
CDC Washington
Phone: 202-245-0616

From: Fulling, Ali [mailto:Ali.Fulling@mail.house.gov]
Sent: Thursday, November 9, 2017 3:28 PM
To: Hayes, Sean (HHS/ASL) <Sean.Hayes@hhs.gov>; Kemper, Laura (HHS/ASL) <Laura.Kemper@hhs.gov>; Richman, Karyn (CDC/OD/CDCWO) <ygn7@cdc.gov>
Subject: 10.24.17 O&I Hearing Questions for the Record

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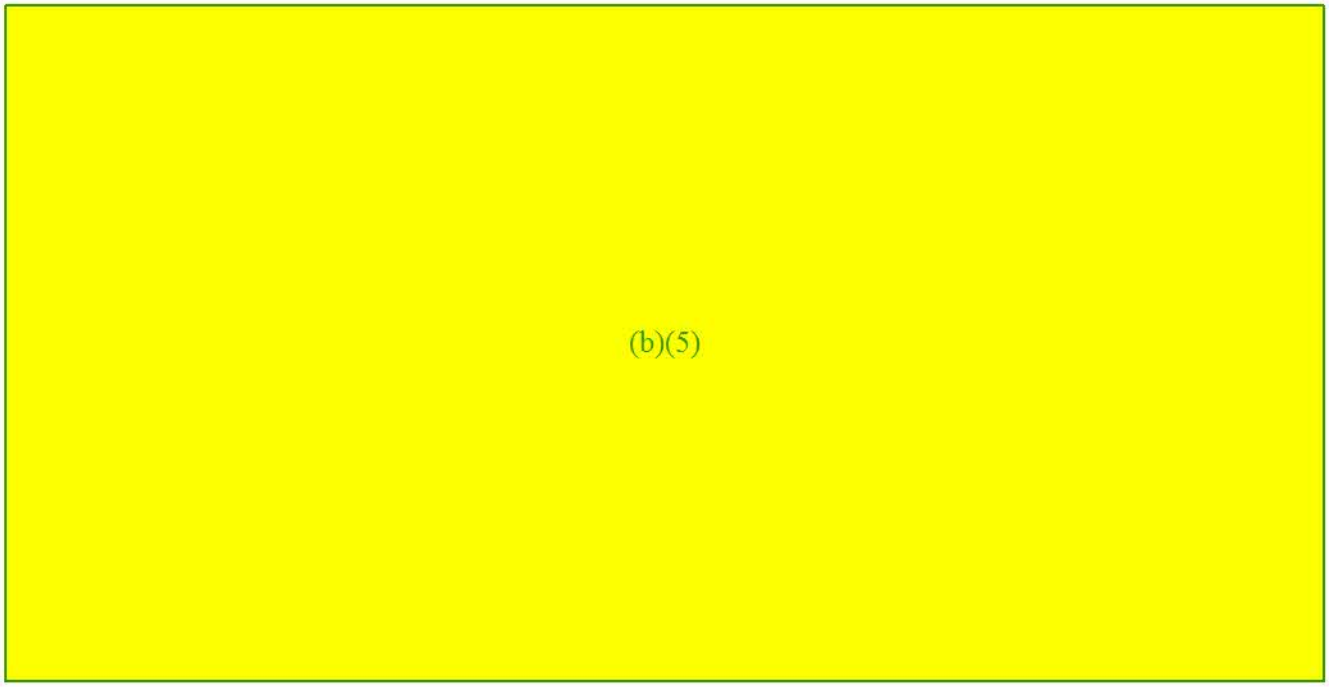

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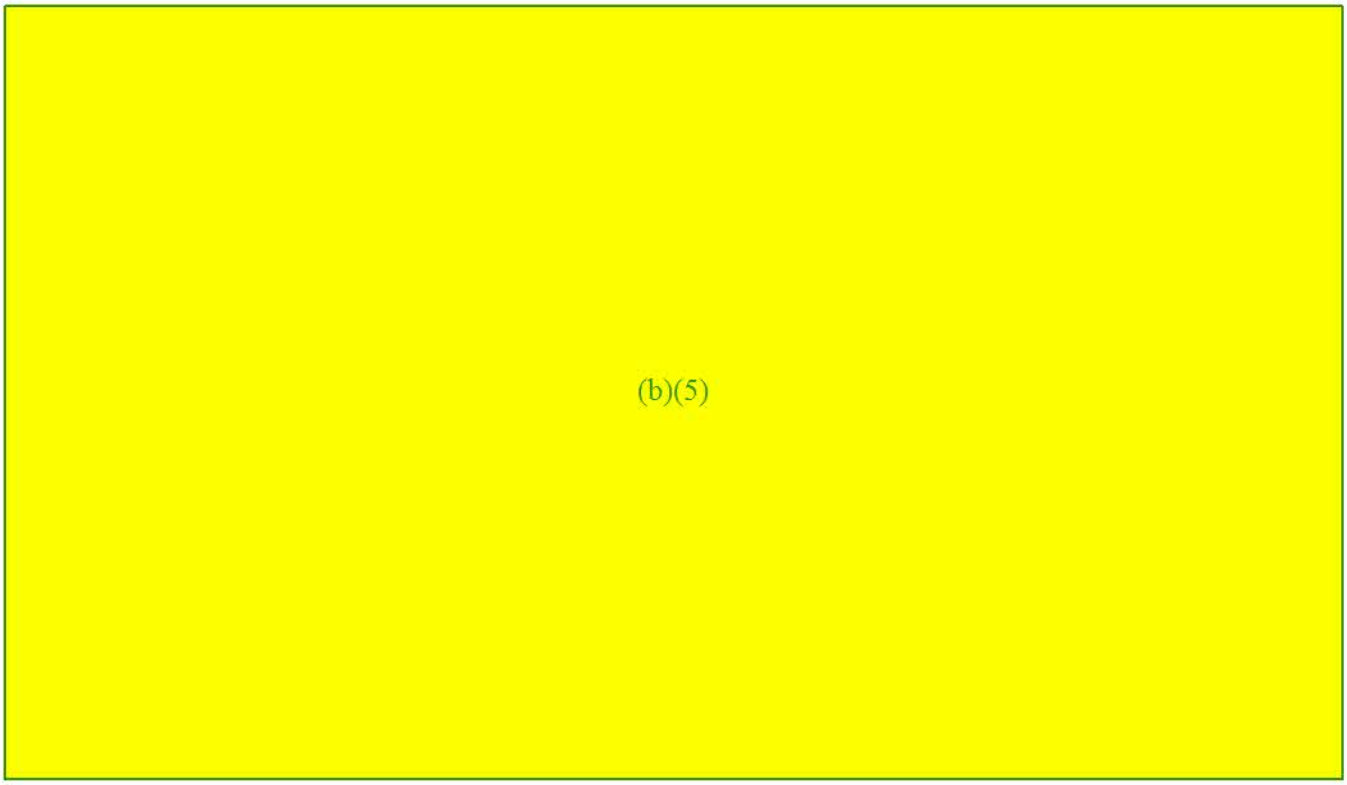

From: Heldman, Amy B. (CDC/OD/OADC)
Sent: 15 May 2018 16:01:17 -0400
To: Bonds, Michelle E. (CDC/OD/OADC);Althouse, Riley (OS/ASPA);Clark, Cynthia K. (CDC/OD/OCS);Daniel, Katherine Lyon (CDC/OD/OADC);Formoso, Paula (HHS/ASPA);Galatas, Kate (CDC/OD/OADC);Guest, Megan (CDC/OD/OADC);Haynes, Benjamin (CDC/OD/OADC);Lemar, Naweed (OS/ASPA);McGuire, Delaney (CDC/OD/OADC);Smith, Gavin (OS/ASPA);Harben, Kathy (CDC/OD/OADC)
Subject: RE: CDC Daily Report 5.15.18
Attachments: CDC Daily Report 5.15.2018.docx

Please accept CDC's Daily Report for Tuesday, May 15, 2018.

Amy Burnett Heldman, MPH
Deputy Director, Division of Public Affairs
Office of the Associate Director for Communication
Centers for Disease Control and Prevention
Office: 404-639-7963
Cell: 404-822-7067

Daily Communications Update
U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
Tuesday, May 15, 2018

Today's Top Issues and Accomplishments

Today's Press Releases

- Today (May 15) CDC will disseminate the Smithsonian's media advisory on the upcoming **Smithsonian *Epidemics* exhibit launch**. On May 18, in remembrance of the 100th anniversary of the Great Influenza pandemic, the Smithsonian's National Museum of Natural History is launching a three year exhibition examining the human ecology of epidemics. On May 16, the press preview event will be held at the Smithsonian; CDC Center for Global Health (CGH) Director Rebecca Martin and CGH Emerging Infectious Surveillance and Lab Branch Chief Joel Montgomery will represent CDC at the event. The Smithsonian will host a Facebook Live event career fair featuring Dr. Jenni McQuiston on Thursday, May 17 and CDC will host a Facebook Live event on Friday, May 18 featuring CDC EIS and LLS officers.

Today's/Yesterday Afternoon's Notable Inquiries

- The Gazette (Colorado Springs). AP, E&E News, Bloomberg - PFAS
- ABC – Salmonella
- ABC – Deaths in Puerto Rico after Hurricane Maria
- NYTimes – STDs
- US News and World Reports – synthetic cannabinoids
- The Daily Beast – Lyme disease
- Washington Post, Spero – Ebola
- NYTimes, WSJ - NCHS Births Data

Today's Important Interviews

Today's Top Stories

- STDs: LA Times, CBS News, Fortune
- Salmonella: BuzzFeed, CBS News, NBC News, Quartz, PEOPLE, Yahoo, Breitbart
- Newsday -- Firefighter cancer tracking legislation gains Senate approval
- ABC News/AP -- UN health agency aims to wipe out trans fats worldwide
- Reuters -- RPT-Delayed calorie disclosure rule takes effect for U.S. food

Tomorrow's Look Ahead

- On May 15–17, CDC, along with the CDC Foundation and Task Force for Global Health, will cohost the **National Immunization Conference** in Atlanta, Georgia. CDC will conduct several presentations during this event.

- On May 16, **New Rabies Test Offers Benefits over Standard Testing** will publish in PLOS. CDC has developed an effective new test for rabies in animals that will help doctors more easily know who needs to receive treatment to avoid this often-fatal disease. This new test developed by CDC can quickly and accurately diagnose rabies infections in animals and reduce false positive or inconclusive results. The LN34 test offers many advantages over other tests used today: it can be run on testing platforms already used worldwide, without any specialized training or equipment and it yields results from brain tissue in varying conditions. A press release will be issued.

- CDC will release **updated case count information related to the multistate outbreak of E. coli O157:H7 on Wednesday**; information will be posted on website and distributed to media.

- On May 17, CDC will release an MMWR titled **Outbreaks Associated with Treated Recreational Water — United States, 2000–2014 and Healthy and Safe Swimming Week 2018** (see below). The report describes mixed progress in preventing illnesses and outbreaks caused by germs commonly spread through recreational water. A press release will be sent out Wednesday afternoon with a Thursday embargo; radio media tour and social media are also planned.

One-Week Look Ahead

- This week TBD **Shifting Causes of Mortality among Adults With and Without Diagnosed Diabetes in the United States** will publish in the Lancet. From 1988-1994 to 2010-2015, among US adults with diabetes, all-cause death rates declined 20% every 10 years, while death from vascular causes declined 32%, cancers declined 16%, and the rate of non-vascular, non-cancer deaths declined by 8%. Death rates also declined significantly among the population without diagnosed diabetes for all four major mortality categories. However, the rate of decline in death rates for all-causes, vascular causes, and non-vascular, non-cancer causes were significantly greater for the population with diagnosed diabetes, as differences in all-cause and vascular disease death between persons with and without diabetes were reduced by about a half.

- On May 17, **The Association between State Indoor Tanning Laws and the Prevalence of Indoor Tanning among US High School Students** will publish in the American Journal of Public Health. The paper examines the association between state indoor tanning laws and indoor tanning behavior using nationally representative samples of U.S. high school students.

- On May 17, CDC Director, Dr. Robert Redfield, will provide welcoming remarks at the **Federal AIDS Policy Partnership and Partners meeting** hosted by CDC. Media not expected.

- On May 17, CDC Principal Deputy Director, Dr. Anne Schuchat, will travel to Washington, D.C. to provide the **commencement address for the Milken Institute School of Public Health commencement ceremony.**

- On May 17, CDC will publish **The Protecting Patient Access to Emergency Medications Act of 2017** on its website. The article will provide a summary of the Act, which amended the Controlled Substances Act to include requirements for the maintenance and administration of controlled substances by emergency medical services.

- On May 17, a **March of Dimes Webinar to healthcare providers** will take place. March of Dimes will host a Grand Rounds discussing prenatal opioid exposure; CDC SME will present. The presentation will focus on the CDC perspective regarding effects of sustained prenatal opioid exposure on mothers and babies.

- On May 17, The Pennsylvania Department of Health (PADOH) and the Pennsylvania Department of Environmental Protection (PADEP) will release health consultation report **Public Health Evaluation of Long-Term Air Sampling Data Collected in the Vicinity of Natural Gas Operations, Washington County, Pennsylvania**, which concludes that exposure to the levels of chemicals found in the air is not expected to harm healthy individuals. PADOH and PADEP are planning a joint press announcement, and both state agencies will include links to both the health and environmental reports on their websites. ATSDR provided technical assistance to PADOH and will make the health report available on ATSDR's website.

- On May 17 the **Global Polio Eradication Initiative leadership from WHO, Rotary International and CDC will brief a group of journalists on global polio eradication efforts**. WHO Director of Polio Eradication Michel Zaffran, Rotary International Polio Plus Director Carol Pandak, and CDC Center for Global Health Director Rebecca Martin will jointly provide a polio update for 25 minutes, followed by a 35-minute Q&A session.

- On May 18, **Senator Durbin (D-IL) will visit the CDC** Roybal Campus in Atlanta, Ga. and meet with CDC Director, Dr. Robert Redfield.

- On May 18, **Using the social-ecological model to improve access to care for adolescents** will publish in the Journal of Adolescent Health. Recent CDC data indicate that 17% of children and 21% of adolescents are obese, which is linked to chronic health effects such as diabetes, heart disease, and depression Individuals aged 15-24 account for nearly half of incident sexually transmitted infections annually, and suicide is a leading cause of death among children and adolescents.

- On May 18 ATSDR plans to release a media announcement related to the **health investigation report Garden City Groundwater Plume NPL site**. ATSDR will accept public comments until June 29, 2018.

- On May 18, CDC will participate in a Congressional briefing titled "**Our Syndemic: The Intersection of Hepatitis C and Opioids—A Public Health Crisis**" in Washington, D.C.

- On May 18, CDC will **deactivate the 2017 hurricane response.**

- On May 21**, Clinical Features of Guillain-Barré Syndrome Associated with Zika Virus Infection, Puerto Rico, 2016** will publish in JAMA Neurology. After reporting local Zika virus transmission in December 2015, the Puerto Rico Department of Health (PRDH) and US Centers for Disease Control and Prevention (CDC) began identifying cases of Guillain-Barré syndrome (GBS), testing specimens, and conducting follow-up telephone interviews after patients left the hospital. An increase in the number of GBS cases during the Zika epidemic in Puerto Rico provided a unique opportunity to learn more about GBS associated with Zika infection.

- (Tentative) On May 21, **Greater Decline in Dental Caries among Low-Income Children Aged 2–5 Years** will publish in JDR Clinical & Translational Research. Untreated caries prevalence and severity among US children aged 2–5 years declined from 1999–2004 to 2011–2014, with greater declines among low-income children. The improvement in caries among young children may reflect collective efforts to prevent caries and reduce disparities.

- On May 22, Dr. Schuchat will participate in the **Wall Street Journal Health Forum**. She will be on a panel with Dr. Tony Fauci on pandemic preparedness. **Media expected/invited.**

- On May 22nd as part of the American Industrial Hygiene Conference and Exposition (AIHce), held by the American Industrial Hygiene Association (AIHA). A press briefing will be held after the morning panel discussion (https://www.aihce2018.org/Agenda/Pages/Opening-Session.aspx) – starting at approximately 9:15am. All of the speakers from the panel will be taking part in the briefing, along with an additional first responder. Dr. John Howard from NIOSH will be participating on the panel. Trade and local media expected. A media advisory went out on May 8th.

- On May 22, **Annual Report to the Nation on the Status of Cancer, Part I: National Cancer Statistics/ Part II: Recent Changes in Prostate Cancer Trends and Disease Characteristics** will publish in Cancer. The ACS, CDC, NCI, and the North American Association of Central Cancer Registries (NAACCR) collaborate to provide annual updates on cancer occurrence and trends in the United States. For the first time, the US cancer surveillance community has

performed an analysis of long-term trends in incidence of prostate cancer by stage using delay-adjusted rates. Using nationwide cancer registry and vital registration data, prostate cancer incidence rates for distant stage disease increased and mortality rates leveled off in the United States following the US Preventive Services Task Force recommendations against PSA-based screening. **National Cancer Institute is lead. NCI will be issuing a press release with CDC director quote.**

- During the week of May 22, Dr. John Howard from NIOSH is expected to publish a **commentary in the *American Journal of Industrial Medicine*.** The commentary provides a brief overview of the scientific information used in developing the existing opioid exposure prevention recommendations for first responders. The commentary aims to explain the scientific basis for the recommendations, increase awareness of the potential risks associated with opioid exposure during a response, and educating responses about safe work practices when exposure to opioids is suspected or confirmed.

NCHS reports

- May 17: Births: Provisional Data for 2017
- May 22: Health Insurance Estimates Coverage: Estimates from the National Health Interview Survey, 2017

CDC MMWR

Release Date	Embargoed Date	Title
May 17	May 18	Box: Hepatitis Awareness Month and Testing Day, May 2018
		Results of Community-Based Services to Improve Testing and Linkage to Care Among Non-U.S.–Born Persons with Chronic Hepatitis B Virus Infection in Three U.S. Programs, October 2014–September 2017
		Outbreaks Associated with Treated Recreational Water — United States, 2000–2014 (press release, social media)
		Trends in Antiretroviral Therapy Eligibility and Coverage Among HIV-Infected Children Aged <15 years — 20 PEPFAR-Supported Sub-Saharan African Countries, 2012–2016
		Cholera Epidemic — Lusaka, Zambia, 2017–2018
		Notes from the Field: Outbreak of Vibrio cholerae Associated with Attendance at a Funeral — Chegutu District, Zimbabwe, 2018
		Notes from the Field: Investigation of an Outbreak of *Salmonella* Paratyphi B var. L(+) tartrate + (Java) and Ball Python Exposure — United States, 2017
		QuickStats: Percentage of Adults Aged ≥60 Years Who Ever had the Shingles Vaccine, by Sex — National Health Interview Survey, 2008–2016

###

From: Rodenbeck, Sven (ATSDR/DCHI/OD)
Sent: 17 Oct 2017 12:48:22 -0400
To: Funk, Renee (CDC/ONDIEH/NCEH);Kadlec, Robert (OS/ASPR/IO);Fitzgerald, Brenda (CDC/OD);Breysse, Patrick N. (CDC/ONDIEH/NCEH);Redd, Stephen (CDC/OPHPR/OD)
Cc: Kroop, Seth (CDC/OD/OCS);Elgethun, Kai (CDC epa.gov);CDC IMS Incident Manager -2;CDC IMS Chief Health/Science (CDC)
Subject: RE: CDC/ATSDR Bio Report 17OCT17
Attachments: Copy of CDC Syndromic Data_20171016.xlsx, CDC Syndromic Data_Hurricane Response_20171016.docx

Renee,

Below and attached is the Weekly Bio Report for ASPER

Sven

Sven E. Rodenbeck

Chief Science Officer

CDC/ATSDR 2017 Hurricane Responses

Syndromic Surveillance

CDC's NSSP-ESSENCE Syndromic Surveillance summary focuses on data from operational ASPR Disaster Medical Assistance Teams (DMATs) in Puerto Rico and U.S. Virgin Islands (USVI). Due to connectivity problems in deployed areas file transfer is not always possible, and as a result these data do not represent all DMAT encounters.

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• MS Excel spreadsheets provide daily counts and percent of visits for ESSENSE sub-syndromes potentially relevant to the hurricane response and recovery.

• Data are provisional and subject to change as new data are processed.

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• Most common chief complaints are related to: injuries related to cuts/lacerations, musculoskeletal pain, and normal health maintenance for existing chronic diseases.

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• Potential Encounters of Interest

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Vector Control

Puerto Rico

- DOD is awaiting a Mission Assignment and will perform surveillance and treatment and PRDOH will lead public outreach activities. CDC will assist with laboratory capacity

US Virgin Islands

- Very limited treatment is occurring using mosquito dunks

Water

Puerto Rico

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US Virgin Islands

- Some areas are beginning to regain potable water, however a boil water notice is in effect much of the islands and intermittently within the potable section as leaks are detected and bacterial monitoring commences

- 3 of the wastewater treatment plants are on generators and 3 are non-operational

Vaccines

CDC/ATSDR is consulting and coordinating with PR DOH, USVI DOH, and associated IRCTs to assure that appropriate vaccines are available in PR and USVI

Note: Because FL and TX health departments have returned to normal pre-hurricanes operations and surveillance activities, CDC/ATSDR is only reporting public health information regarding PR and VI.

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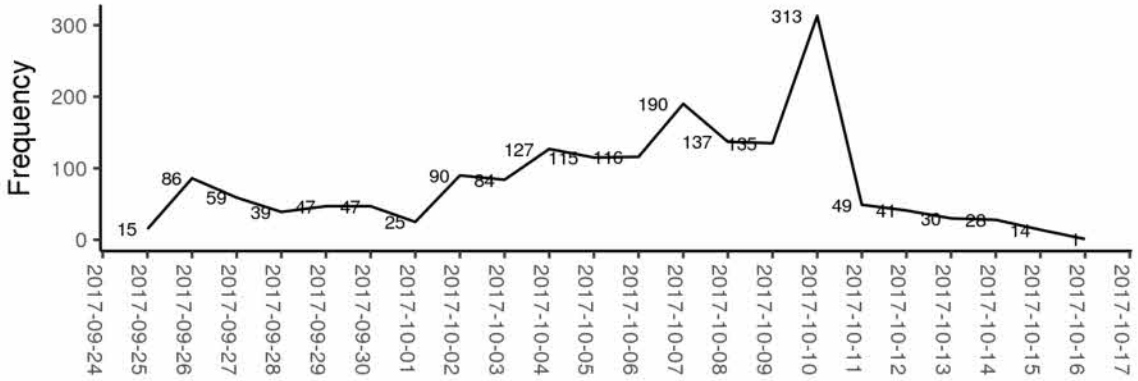
        - Additional encounters related to "eye infections" and "conjunctivitis" continue to be observed – 50 from 09/25-10/16.

CDC 2017 Hurricane Response Syndromic Surveillance Summary: 10/16/2017

Provisional Data for Public Health Response and Situational Awareness Only

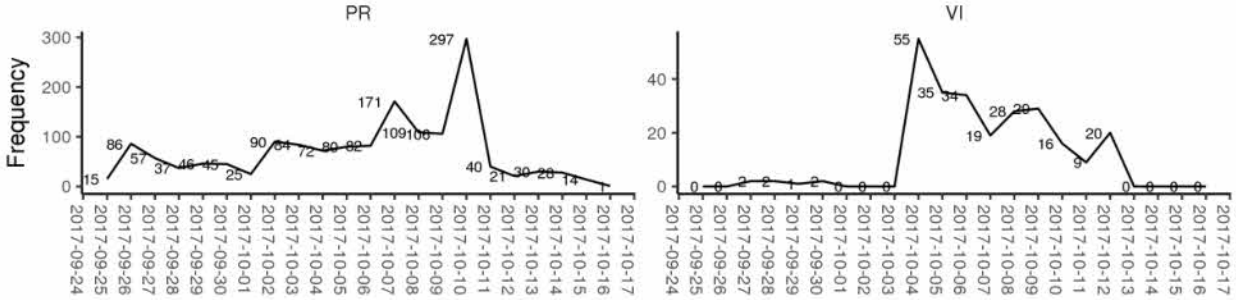
PR and USVI DMAT Daily Total Volume, 2017

DMATs=6 and N=1788 encounters



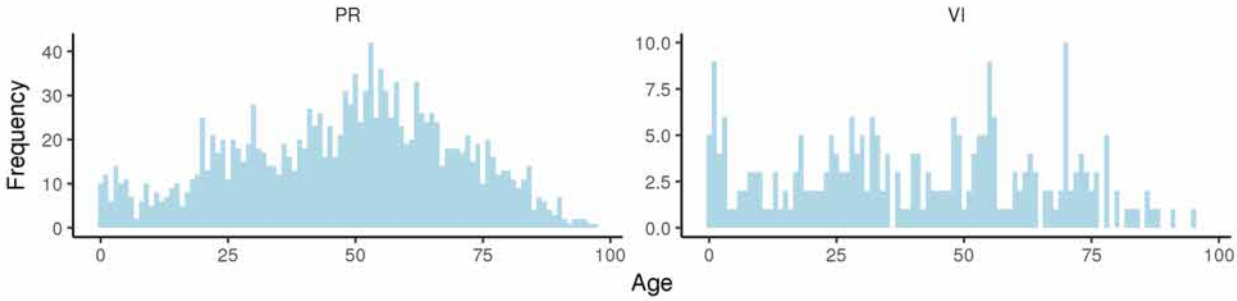
PR and USVI DMAT Daily Total Volume by Jurisdictions, 2017

DMATs=6 and N=1788 encounters



PR and USVI DMATs - Age Distribution for Encounters, 09/25/2017-10/12/2017

DMATs=6 and N=1788 encounters



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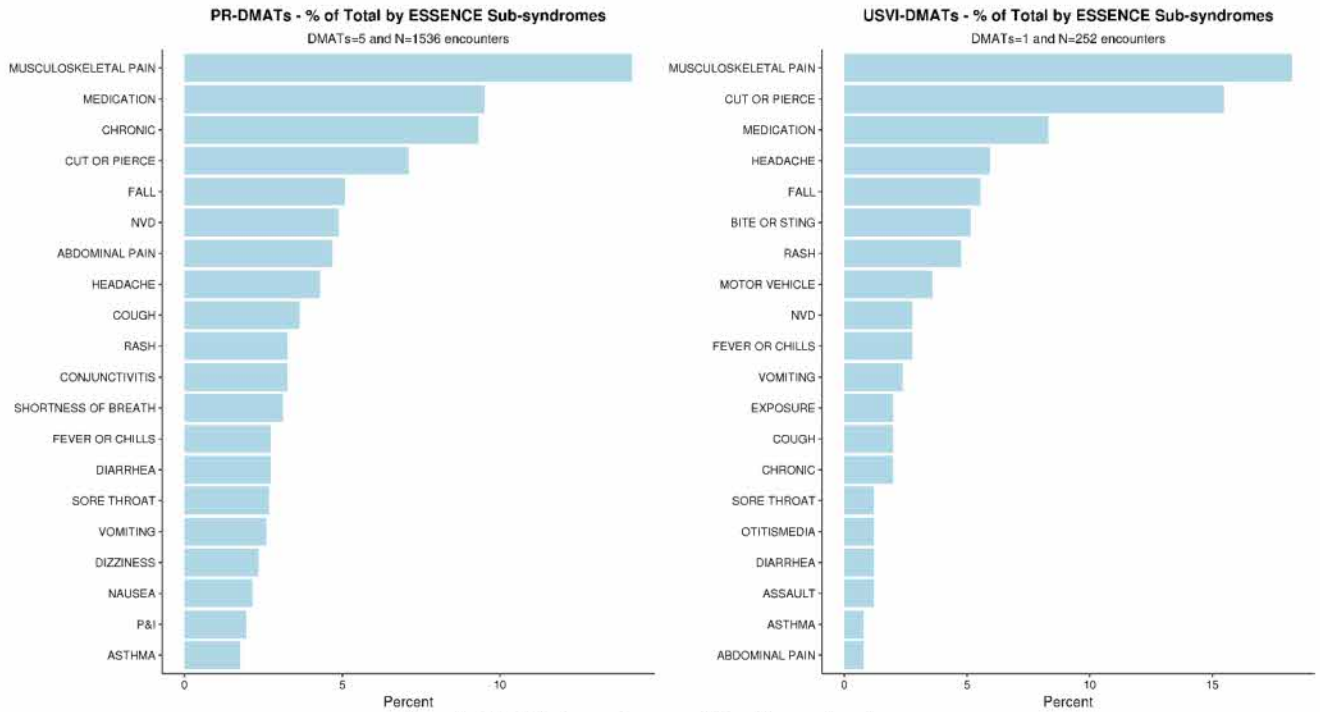

Approximately 26% of encounters were not binned in any sub-syndrome;
DMATs=6 and N=1788 encounters

From: Rodenbeck, Sven (ATSDR/DCHI/OD)
Sent: 17 Oct 2017 12:49:32 -0400
To: Funk, Renee (CDC/ONDIEH/NCEH);Kadlec, Robert (OS/ASPR/IO);Fitzgerald, Brenda (CDC/OD);Breysse, Patrick N. (CDC/ONDIEH/NCEH);Redd, Stephen (CDC/OPHPR/OD)
Cc: Kroop, Seth (CDC/OD/OCS);Elgethun, Kai (CDC epa.gov);CDC IMS Incident Manager -2;CDC IMS Chief Health/Science (CDC)
Subject: RE: CDC/ATSDR Bio Report 17OCT17

Do not use this one. I hit the send button by mistake!!!
Sven

From: Rodenbeck, Sven (ATSDR/DCHI/OD)
Sent: Tuesday, October 17, 2017 12:48 PM
To: Funk, Renee (CDC/ONDIEH/NCEH) ; Kadlec, Robert (OS/ASPR/IO) ; Fitzgerald, Brenda (CDC/OD) ; Breysse, Patrick N. (CDC/ONDIEH/NCEH) ; Redd, Stephen (CDC/OPHPR/OD)
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Chief Science Officer
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Puerto Rico

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US Virgin Islands

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Vaccines

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From: CDC IMS Incident Manager -2
Sent: 24 Oct 2017 12:39:21 -0400
To: Funk, Renee (CDC/ONDIEH/NCEH);Kadlec, Robert (OS/ASPR/IO);Fitzgerald, Brenda (CDC/OD)
Cc: Bryant, Jeffrey (Jeff) (CDC/OPHPR/DEO);Redd, Stephen (CDC/OPHPR/OD);Breysse, Patrick N. (CDC/ONDIEH/NCEH);Knutson, Donna (CDC/ONDIEH/NCEH);Dieser, Edward (CDC/ONDIEH/NCEH);Rodenbeck, Sven (ATSDR/DCHI/OD);Hurricane Response (CDC)
Subject: Re: CDC/ATSDR Bio Report 24OCT17
Attachments: Epi Surveillance Summary Report_10.23.17.docx, CDC Syndromic Data_20171023.xlsx

Below is a summary of the various bio-information. Attached is more detailed information concerning the syndromic surveillance.

Syndromic Surveillance

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- Most common chief complaints are related to: injuries related to cuts/lacerations, musculoskeletal pain, and normal health maintenance for existing chronic diseases.

USVI DMAT Syndromic Data --- Updated Mon Oct 23 2017 11:08

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  – None at this time

Puerto Rico DMAT Syndromic Data – Updated Mon Oct 23 2017 at 11:08

- 7748 encounters have been received from 11 DMATs and 1 FMS located in the San Juan, Caguas, Manati (an FMS), Ponce, and Humacao areas.
- Most common chief complaints are related to: medication refill requests, musculoskeletal pain, and nausea, vomiting, and diarrhea (NVD).
- Potential Encounters of Interest
    - On 10/03/2017 there were six encounters at DMAT-Centro Medico San Juan with eye infection and/or conjunctivitis mentioned. All female between the ages 20-49.
    - Additional encounters related to "eye infections" and "conjunctivitis" continue to be observed --- 392 between 2017-09-25 to 2017-10-23.
    - Multiple encounters now mention suspected leptospirosis or patient concern over having leptospirosis.
    - One encounter on 2017-10-21 includes a diagnosis code for leptospirosis.

DoD Surveillance Data: Hurricane Maria (as of October 19, 2017)

- Reporting Units: USNS Comfort, USS KSG, USS Oak Hill, USS Wasp, 633 EMEDS, 3ESC, 575th ASMC, and 602nd ASMC
- Information received
    - Syndromic Surveillance
    - Summary of Diagnosis/Reason for Visit
        - Total of 589 diagnosis/reasons for visit
        - Top three reasons: 23.3% musculoskeletal, 14.8% other, 13.4% routine/follow-up

VA Surveillance Data: Hurricane Maria (as of October 19, 2017)

- Reporting units: San Juan VAMC-ER and Inpatient
- Information received
    - ER daily syndromic surveillance
    - Inpatient active and new patient syndromes
    - Individual case information
- 361 active inpatients at San Juan VA Medical Center, on Oct 18, 2017
    - 2 conjunctivitis
    - 1 influenza
    - 1 leptospirosis
- 903 total unique ER patient visits, Oct 12–19, 2017
    - 203 total patients with infectious disease syndromes (22.5%)

<u>Drinking Water & Wastewater</u>

Puerto Rico

- All of Puerto Rico is under a boil water notice.

- As of 10/23, 72% of the PRASA clients have access to drinking water (PRASA services 96% of the population)
- 34 out of 51 of PRASA's wastewater treatment plants are operating on generator power, 7 are on grid power, and 10 are non-operational
- We are continuing to support communications team with water disinfection information

US Virgin Islands

- Some areas are beginning to regain potable water, however a boil water notice is still in effect, due to leaks and pressure drops which may allow for contamination of the water.
- VIWAPA reports that they are approximately 90% restored

Vector Control
Puerto Rico

- DOD is awaiting a Mission Assignment and will perform surveillance. PRDOH will lead efforts for treatment and public outreach activities. CDC will assist with laboratory capacity

US Virgin Islands

- A draft vector control plan has been formulated and is being reviewed within VIDOH

Vaccines

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Sven

Sven E. Rodenbeck
Acting Incident Manager
Hurricane Harvey/Irma/Maria Response
EOCIM2@cdc.gov

Epi/Surveillance Summary

23 October 2017

CDC 2017 Hurricane Response Syndromic Surveillance Summary: PR and USVI DMAT Syndromic Trends

Report by CDC/CSELS/DHIS

Background

CDC's NSSP-ESSENCE Syndromic Surveillance summary focuses on data from operational ASPR Disaster Medical Assistance Teams (DMATs) in Puerto Rico and U.S. Virgin Islands (USVI). Due to connectivity problems in deployed areas file transfer is not always possible, and these data do not represent all DMAT encounters. Data may also be sent in large batches every so often to fill-in past days. As a result of these challenges and the nature of syndromic data, the contents of this report should be considered provisional and subject to change.

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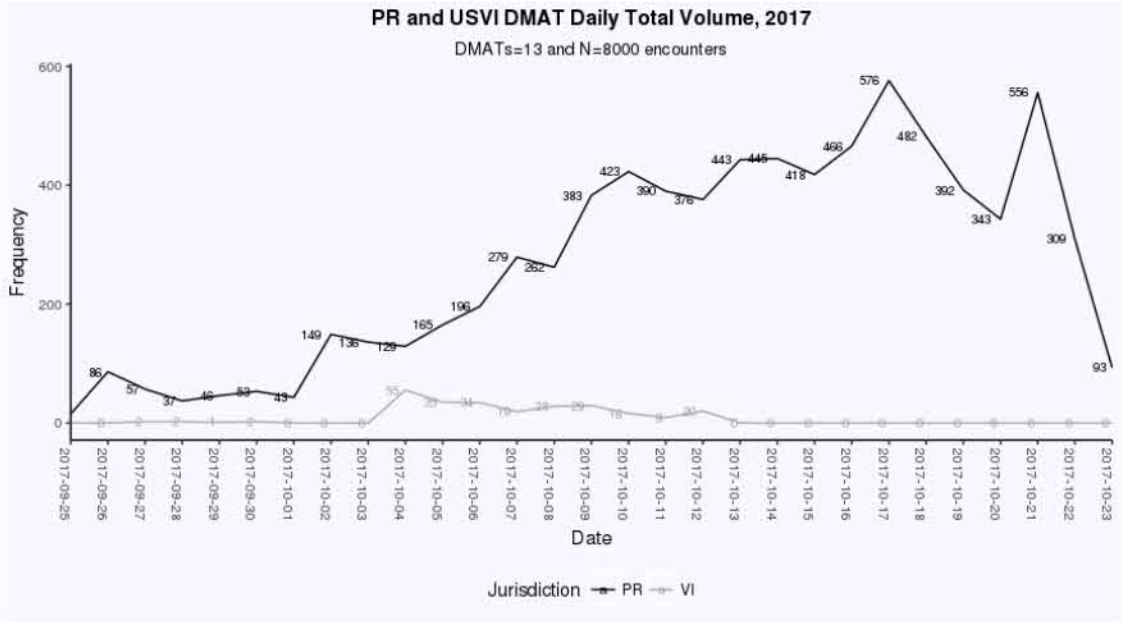
- 252 encounters have been received from the St. Croix DMAT between Mon Oct 23 2017 11:08 and 2017-09-27 --- No encounters received since 2017-10-12.
- Most common chief complaints for past encounters were related to: cuts/laceration injuries, musculoskeletal pain, and requests for medication refills.
- Potential Encounters of Interest
  - None at this time

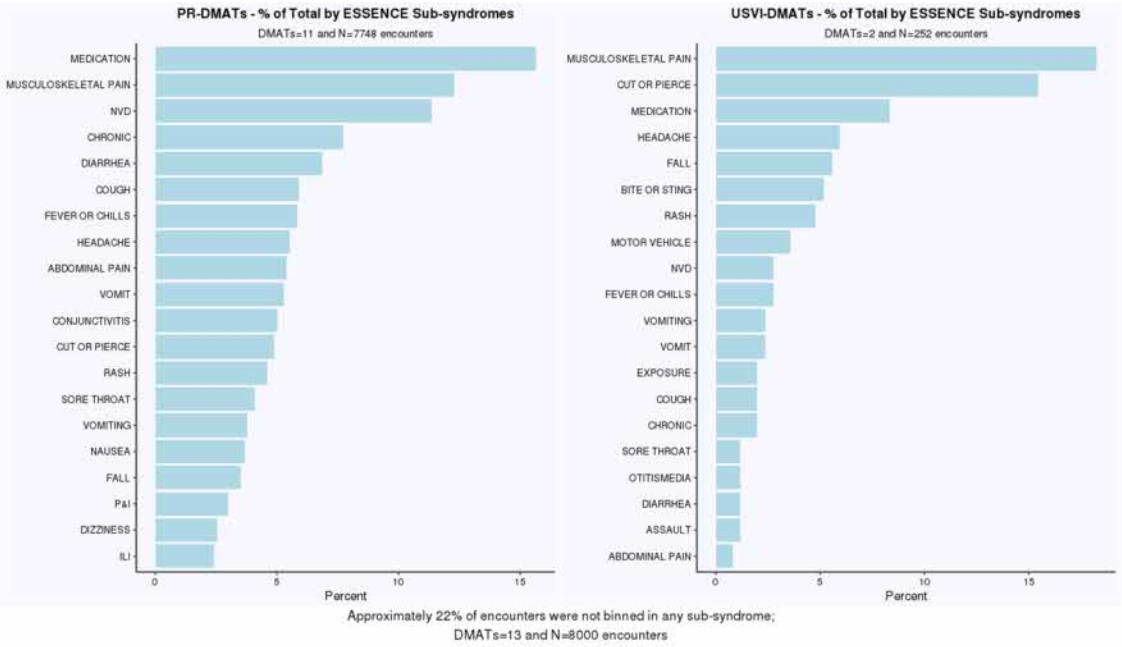
Puerto Rico DMAT Syndromic Data --- Updated Mon Oct 23 2017 11:08

- 7748 encounters have been received from 11 DMATs and 1 FMS located in the San Juan, Caguas, Manati (an FMS), Ponce, and Humacao areas.

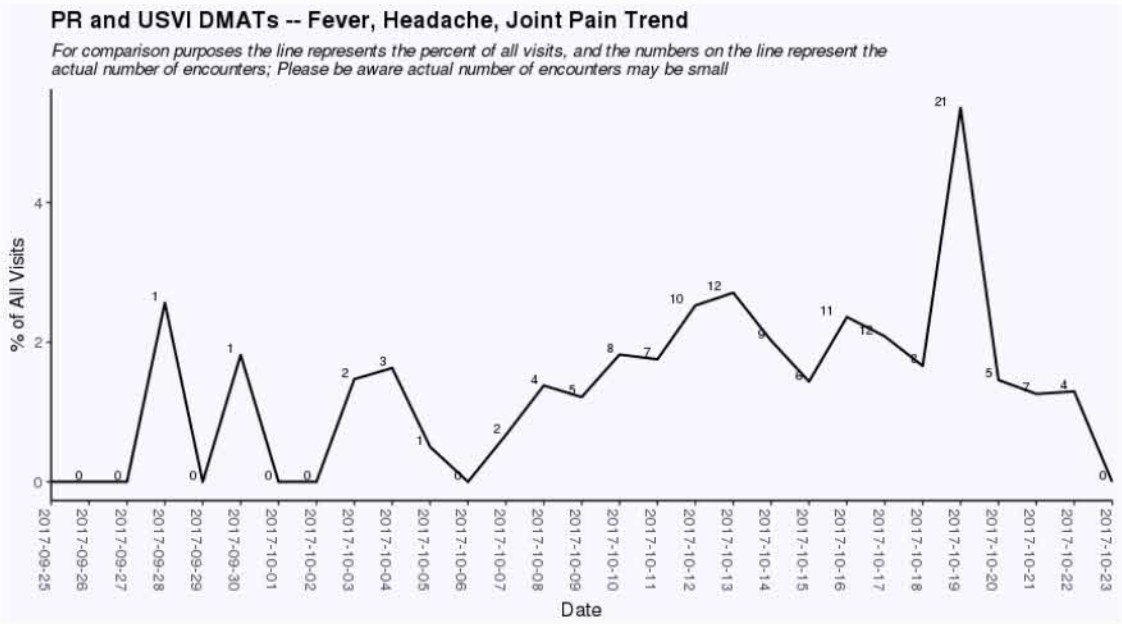
- Most common chief complaints are related to: medication refill requests, musculoskeletal pain, and nausea, vomiting, and diarrhea (NVD).
- Potential Encounters of Interest
  - On 10/03/2017 there were six encounters at DMAT-Centro Medico San Juan with eye infection and/or conjunctivitis mentioned. All female between the ages 20-49.
  - Additional encounters related to "eye infections" and "conjunctivitis" continue to be observed --- 392 between 2017-09-25 to 2017-10-23.
  - Multiple encounters now mention suspected leptospirosis or patient concern over having leptospirosis.
  - One encounter on 2017-10-21 includes a diagnosis code for leptospirosis.



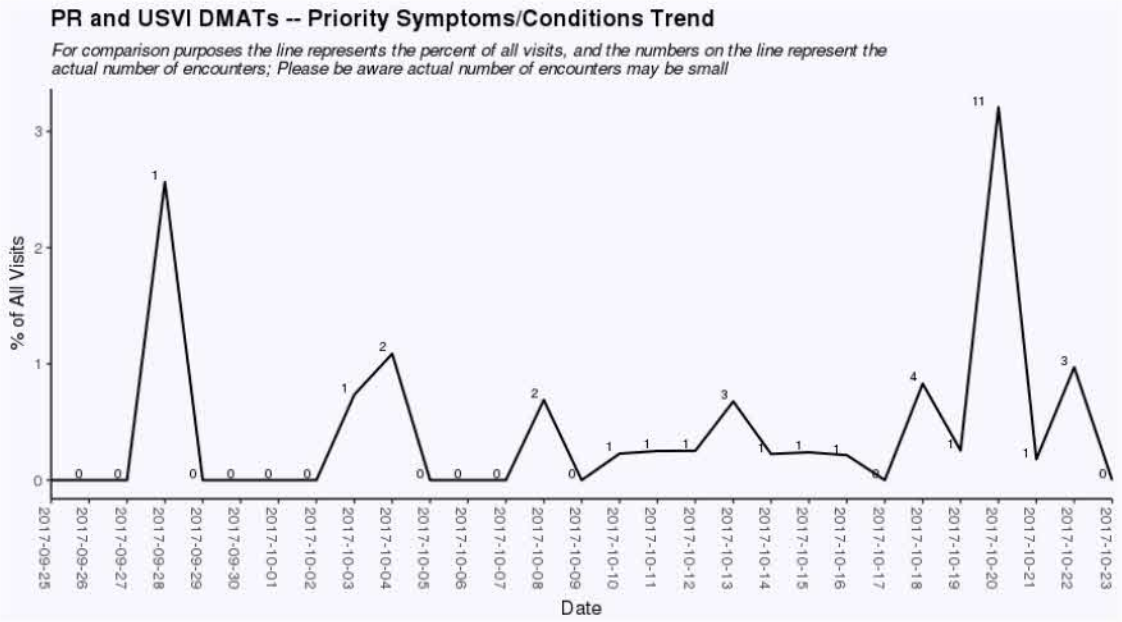
The bar graphs below represent the top 20 categories DMAT encounters have been binned into since September 25, 2017 for PR and the USVI. Primarily we have seen the majority of encounters related to challenges managing existing chronic conditions in the post-hurricane environment, requests for medication refills, and injuries. However, recently PR has seen nausea, vomiting and diarrhea (NVD) move up to the third most common category.

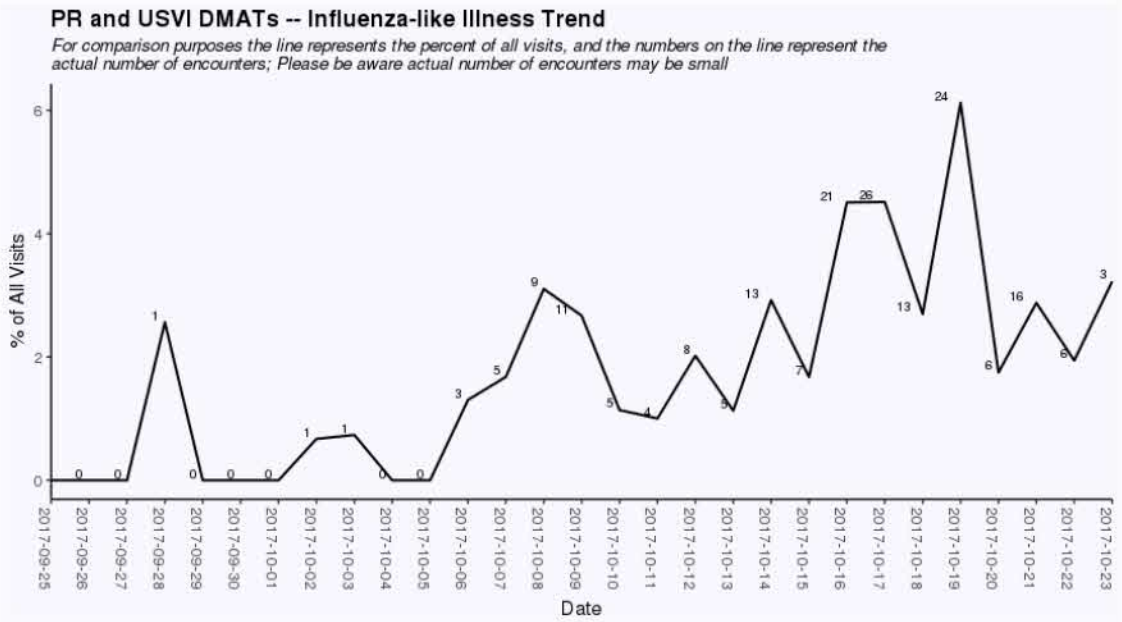


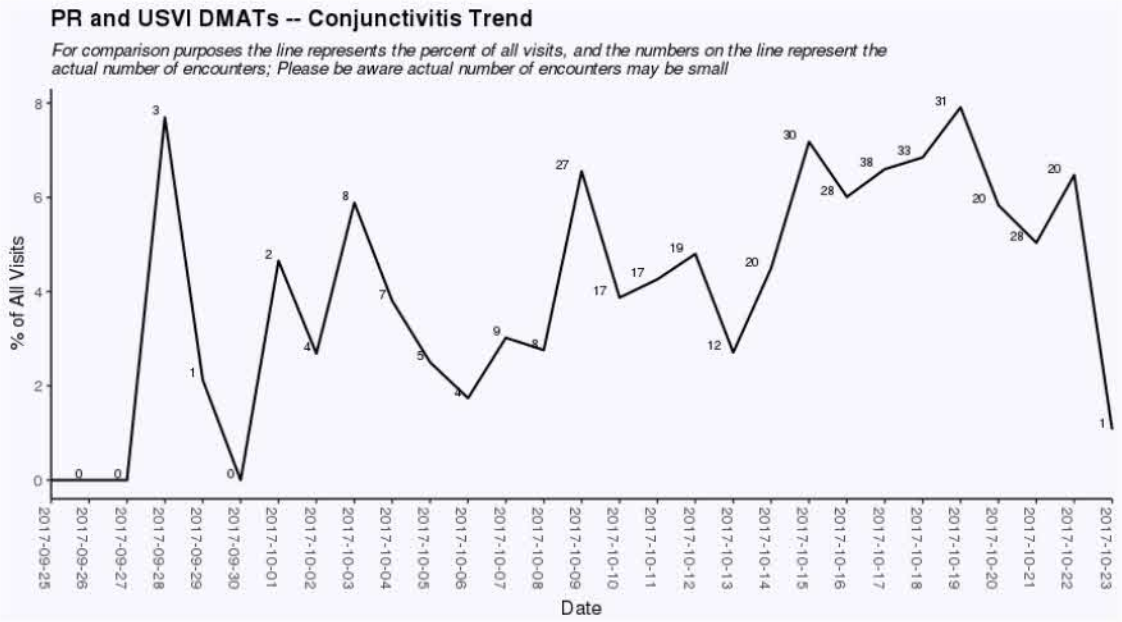
Selected Syndromic Trends

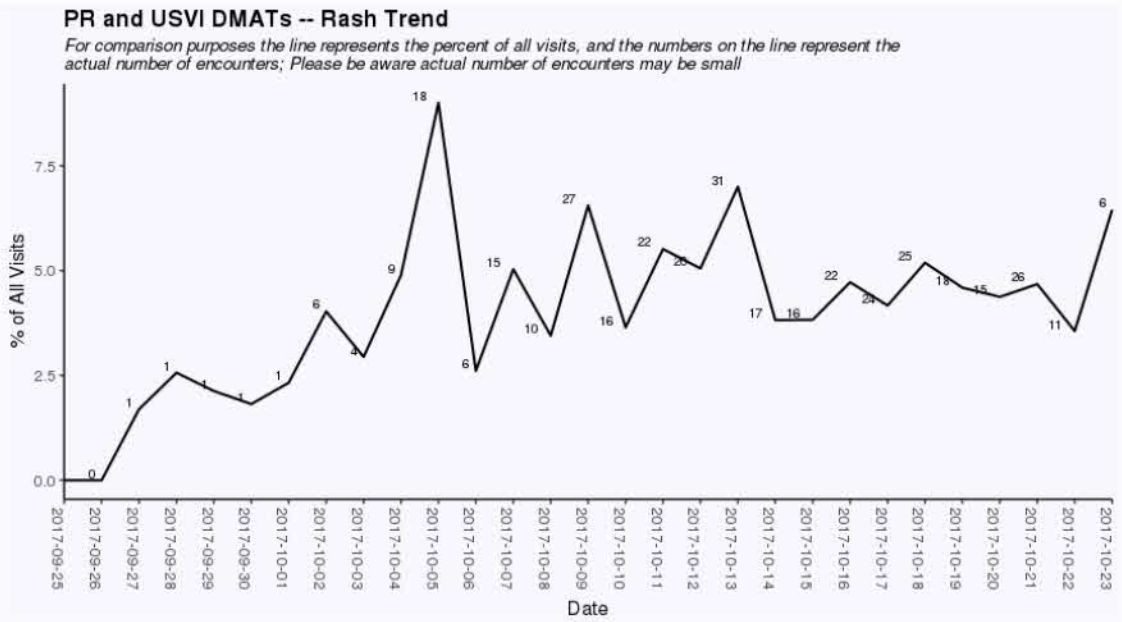


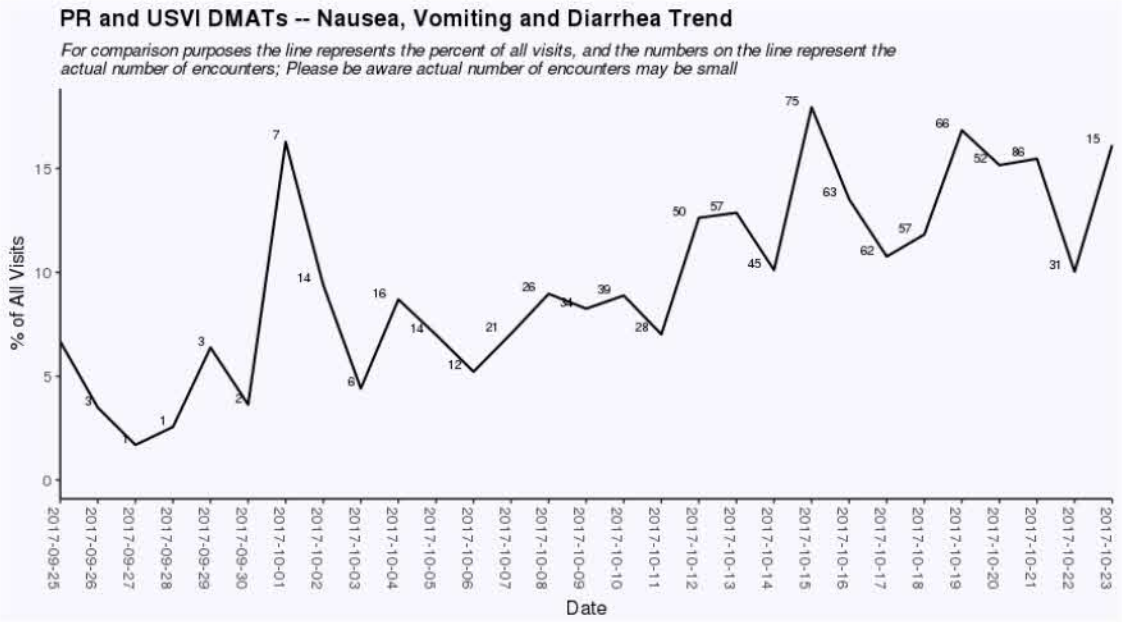
The category below called "Priority Symptoms/Conditions" is a grouping of disparate symptoms/conditions to track separately from the other categories. The increase observed on 2017-10-20 is largely due to multiple encounters mentioning concern over leptospirosis exposure/infections. In addition there was one encounter with mention of "fever, weakness jaundice eyes.." and a diagnosis of "B17" --- "Other acute viral hepatitis" on 2017-10-20. There was one diagnosis of leptospirosis on 2017-10-20.

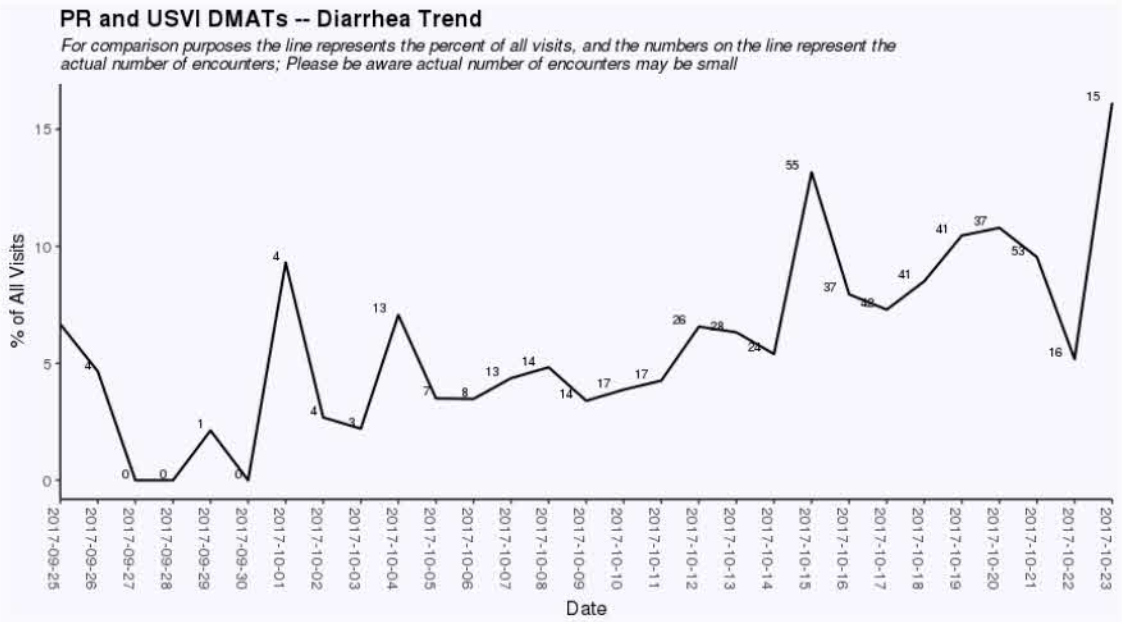


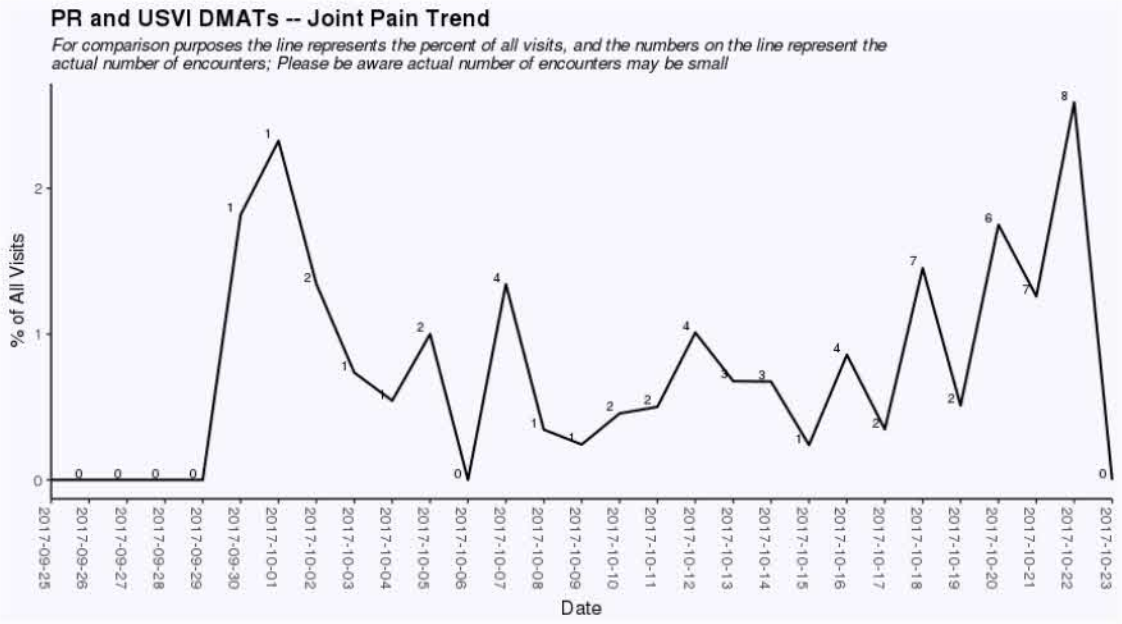












PR/USVI DoD and PR VA Health Surveillance Summary Report

DoD Surveillance Data: Hurricane Maria (as of October 19, 2017)

- Reporting Units: USNS Comfort, USS KSG, USS Oak Hill, USS Wasp, 633 EMEDS, 3ESC, 575th ASMC, and 602nd ASMC
- Information received
  - Syndromic Surveillance
  - Summary of Diagnosis/Reason for Visit
    - Total of 589 diagnosis/reasons for visit
    - Top three reasons: 23.3% musculoskeletal, 14.8% other, 13.4% routine/follow-up

Cumulative DoD Syndromic Surveillance October 13–19, 2017

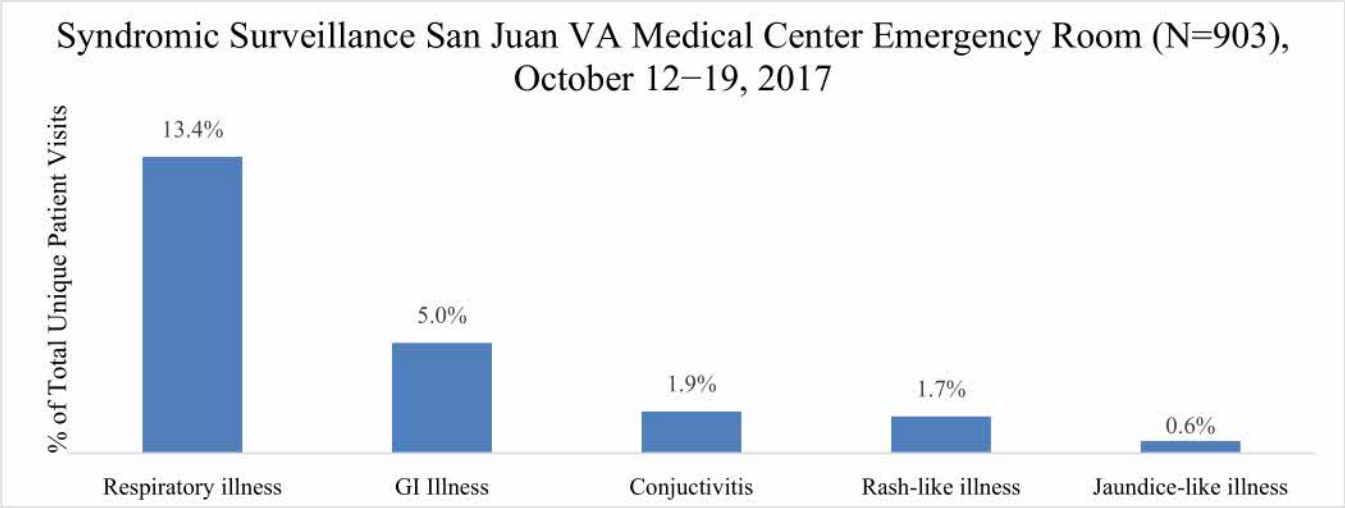
Syndrome	n
GI Illness (watery/bloody diarrhea, nausea, vomiting)	12
Jaundice (Acute hepatitis, leptospirosis)	0
Respiratory Illness (Influenza, pneumonia, bronchitis)	4
Conjunctivitis	1
Rash-like Illness	0

VA Surveillance Data: Hurricane Maria (as of October 19, 2017)

- Reporting units: San Juan VAMC-ER and Inpatient
- Information received
  - ER daily syndromic surveillance
  - Inpatient active and new patient syndromes
  - Individual case information
- 361 active inpatients at San Juan VA Medical Center, on Oct 18, 2017
  - 2 conjunctivitis
  - 1 influenza

- 1 leptospirosis

- 903 total unique ER patient visits, Oct 12–19, 2017
  - 203 total patients with infectious disease syndromes (22.5%)



From: Wortman, Eric (CDC/OD/CDCWO)
Sent: 13 Dec 2017 15:26:37 +0000
To: Green, Donata (CDC/ONDIEH/NCEH)
Cc: Brand, Anstice M. (CDC/OD/CDCWO);Wolfe, Mitchell (HHS/OS/OGA)
Subject: RE: Congressional inquiry re Puerto Rico recovery
Attachments: QFRs from Dr. Redd Oct 24th Hearing 120417.docx

Thanks, Donata –
I was just in the middle of writing you again when I go this. The question looked familiar to me. Turns out it is a question from our QFR's from Dr. Redd. It was Rep. Kastor that asked the question not Schakowsky. See attached. If you let me know who in ASPR reached out to Mollie, I'll cc them on an email that I'll send to ASPR and ASL clarifying that CDC already provided draft responses to HHS for all of the QFRs.
Eric
Eric Wortman
CDC Washington
Phone: 202-245-0616

From: Green, Donata (CDC/ONDIEH/NCEH)
Sent: Wednesday, December 13, 2017 10:21 AM
To: Wortman, Eric (CDC/OD/CDCWO)
Subject: RE: Congressional inquiry re Puerto Rico recovery
From Mollie's email below, it looks like this may be another QFR for Dr. Kadlec from the October hearing. ASPR went directly to the team in the field. How would you like to move forward?

From: Mahany, Mollie (CDC/ONDIEH/NCEH)
Sent: Wednesday, December 13, 2017 10:12 AM
To: Green, Donata (CDC/ONDIEH/NCEH) <dqg7@cdc.gov>
Subject: RE: Congressional inquiry re Puerto Rico recovery
Hi Donata,
This request isn't directed at CDC, but rather was received by ASPR for the record from Dr. Kadlec's Hearing before the House Energy and Commerce Committee in October. The Acting Director of Recovery at ASPR sent the questions to the recovery team in the field for their input.
In spite of the lag time between the October hearing and now, the turnaround time on this for us is COB today. My apologies for that.
Thanks,
Mollie

From: Green, Donata (CDC/ONDIEH/NCEH)
Sent: Wednesday, December 13, 2017 11:03 AM
To: Mahany, Mollie (CDC/ONDIEH/NCEH) <heu0@cdc.gov>
Cc: CDC IMS Policy Unit Lead <eocpolicylead@cdc.gov>
Subject: RE: Congressional inquiry re Puerto Rico recovery
Hi Mollie,
Working on the response.
Could you let me know how the request came in? Since this is Congressional, I will need to loop in CDCW and CDCW may want to know how the request was received. CDCW may want to provide the response to the Reps office. I will keep you looped in on the response and how best to move forward with providing the response.
Donata

From: Mahany, Mollie (CDC/ONDIEH/NCEH)
Sent: Wednesday, December 13, 2017 8:37 AM
To: Green, Donata (CDC/ONDIEH/NCEH) <dqg7@cdc.gov>
Subject: Congressional inquiry re Puerto Rico recovery

Hi Donata,

I'm wondering if you have existing language that would suit as a response to the congressional inquiry related to Puerto Rico recovery. The question below is from . The Honorable Jan Schakowsky.

> Physicians have told me they are seeing other health issues such as asthma, COPD, conjunctivitis, scabies, diabetes, and hypertension being exacerbated due to lack of medications, power, transportation and supplies, increased air pollution from generators and unsanitary living conditions. Is HHS monitoring this situation, and what steps are being taken to address these additional health issues?

Thank you,
Mollie
Mollie Mahany
HSS Recovery

Questions for the Record

The Honorable Greg Walden

1. **According to the Centers for Disease Control and Prevention's (CDC) testimony on October 24, 2017, laboratories in Puerto Rico are not able to conduct any public health tests because of damage sustained during Hurricane Maria. As a result, the CDC is lending support and arranging clinical specimens for suspected priority infectious diseases-such as tuberculosis, leptospirosis, rabies, influenza, and salmonella-to be sent to the U.S. mainland for testing. To date, how many specimens has CDC sent to the U.S. mainland for testing?**

(b)(5)

   a. **Approximately how long does it take for CDC to receive a diagnostic result for the samples it sends to be tested on the U.S. mainland?**

(b)(5)

   b. **What, if any, infectious diseases have been detected through the testing of these specimens?**

(b)(5)

   c. **Do the laboratories in Puerto Rico have generator power yet? If not, when does CDC expect the laboratories in Puerto Rico to be at least partially functional?**

(b)(5)

   d. **Has CDC assessed what, if any, equipment from the laboratories can be salvaged?**

(b)(5)

2. **What disease risks have been detected by CDC's National Syndromic Surveillance Program in the affected regions?**

(b)(5)

3. **During the Agency's hurricane response efforts, has CDC identified any scarcities of medical supplies, such as vaccines, that could hinder the public health response efforts? If so, could you please elaborate?**

(b)(5)

<u>The Honorable Gus Bilirakis</u>

1. **Can you discuss public health surveillance post-storm?**

(b)(5)

(b)(5)

a. **What public health and health care delivery challenges still exist?**

(b)(5)

b. **Have previous public health hazards (like Zika) been heightened? If so, how do we proactively address during our recovery process?**

(b)(5)

(b)(5)

The Honorable Frank Pallone, Jr.

1. **There have been 51 deaths officially associated by Hurricane Maria, as reported by the Puerto Rico government. The Center for Disease Control has confirmed three deaths due to leptospirosis. To date, the island has reported 76 possible cases of the disease. What is the Department of Health and Human Services (HHS) doing to prepare for the potential onslaught of disease caused by contaminated drinking water and the spread of leptospirosis?**

(b)(5)

(b)(5)

2. **What are HHS, CDC, and other involved federal agencies doing to ensure local Puerto Rico government employees have the necessary health and safety equipment to protect themselves during their ongoing relief and recovery workers?**

(b)(5)

a. **Which federal government agencies are responsible for providing needed Personal Protective Equipment (PPEs) to relief and recovery workers?**

(b)(5)

3. **What precautionary measures and/or infrastructure is currently in place to treat potential disease outbreaks in geographically remote areas?**

(b)(5)

4. **What percentage of the population of Puerto Rico and the U.S. Virgin Islands currently has access to potable water through their tap? Is the CDC certain that, where water service has been restored, that the water is safe to drink?**

(b)(5)

The Honorable Jan Schakowsky

1. **Following up, in the aftermath of disasters like these devastating Hurricanes, government should provide relief and recovery workers with required health and safety protections and Personal Protective Equipment (PPEs) to ensure workers' health is not compromised during current and**

ongoing clean-up and future rebuilding. Unfortunately, we have heard that this is causing problems in Puerto Rico.

We know Puerto Ricans in both the private and public sector want to do the work needed to help rebuild their lives, homes, communities, and their Commonwealth. Government workers are willing and eager to help address short-term needs -even when working as assigned by the Puerto Rico government is outside their long-standing employee responsibilities and expertise. Nonetheless, workers simultaneously want to protect their own health and safety and avoid unnecessary health problems. The long-term medical problems flowing from the tragic events on September 11, 2001 and the resulting cleanup efforts at Ground Zero and on the Pile taught us the vital importance of providing appropriate health and safety equipment and training to workers in conditions that are dangerous or uncertain.

a. **What is HHS, CDC, and other federal agencies doing to ensure local Puerto Rico government employees have the necessary health and safety equipment to protect themselves during their ongoing relief and recovery work?**

(b)(5)

b. **Have these issues been addressed in Puerto Rico?**

(b)(5)

c. **Which federal government agencies are responsible for providing needed PPEs to recovery workers?**

(b)(5)

<u>The Honorable Kathy Castor</u>

1. **I also heard from these health professionals that water sanitation is one of the biggest issues in Puerto Rico right now, which is leading to gastrointestinal issues as well as systemic infections. How is the Administration helping get clean water to Puerto Rico, especially to remote areas? Additionally, how is HHS working with health professionals on the ground to treat illnesses stemming from the lack of clean water?**

(b)(5)

(b)(5)

2. **Physicians have told me they are seeing other health issues such as asthma, COPD, conjunctivitis, scabies, diabetes, and hypertension being exacerbated due to lack of medications, power, transportation and supplies, increased air pollution from generators and unsanitary living conditions. Is HHS monitoring this situation, and what steps are being taken to address these additional health issues?**

(b)(5)

(b)(5)

The Honorable Pete Olson

1. **After tackling 3 Hurricanes in a short period of time, what strains have you seen on your current resources. Also, what additional resources do you need to provide these communities the help that they need?**

(b)(5)

From: Brand, Anstice M. (CDC/OD/CDCWO)
Sent: 16 Aug 2018 17:06:00 -0400
To: Bradsher, Kris (HHS/ASL);Rogers, Barbara A. (CDC/OD/CDCWO);Wortman, Eric (CDC/OD/CDCWO)
Cc: Kemper, Laura (HHS/ASL);Burns, Annina (CDC/OD/CDCWO);Wolfe, Mitchell (CDC/OD)
Subject: RE: Consolidated Department Comments: CDC QFRs from June 6 E&C PAHPA hearing
Attachments: CDC rsp QFR 6_6_18 EC PAHPRA Consolidated Dept Comments.810_CDC response 8_15_18 (003).docx

Kris, see attached CDC's response to ASPR's comments on the June 6 E&C PAHPA Hearing QFRs. Happy to talk through our concerns if helpful.

Anstice Brand
CDC Washington Office
(202) 245-0622
www.cdc.gov/washington

From: Bradsher, Kris (HHS/ASL)
Sent: Friday, August 10, 2018 2:14 PM
To: Rogers, Barbara A. (CDC/OD/CDCWO) ; Wortman, Eric (CDC/OD/CDCWO) ; Brand, Anstice M. (CDC/OD/CDCWO)
Subject: Consolidated Department Comments: CDC QFRs from June 6 E&C PAHPA hearing

Hi Barbara, Eric and Anstice,
Attached are the consolidated department comments on CDC's answers to the E&C QFRs from the June 6 PAHPA hearing.
Please review and let me know if you need to discuss.
I am targeting Thursday, Aug 16 next week to get this finalized so we can send on to OMB.
Thanks,
Kris << File: CDC rsp QFR 6_6_18 EC PAHPRA Consolidated Dept Comments.810.docx >>

Kris Bradsher, MBA, RDN
Legislative Analyst
Office of the Assistant Secretary for Legislation
Department of Health and Human Services
Washington, DC 20201
202-690-7627
www.hhs.gov

<< OLE Object: Picture (Device Independent Bitmap) >>

Response of Dr. Steve Redd, Centers for Disease Control and Prevention,
to Questions for the Record:
June 6, 2018 hearing on the Pandemic and All Hazards Preparedness Act,
House Energy and Commerce Committee, Health Subcommittee

Rep. Bilirakis

Resiliency is vital to preparedness and ultimately response and recovery. The stockpile of drugs, vaccines, and other medical products and supplies, known as the Strategic National Stockpile is critical to our ability to respond and recover from catastrophic events. Reliable storage and delivery of these lifesaving medicines is also important in terms of patient safety and cost.

1. **In what ways is your agency working with industry to extend shelf life and improve resiliency of the Strategic National Stockpile?**

(b)(5)

Rep. Mullin:

1. **Do you all believe that current law puts some constraints on how BARDA is able to partner new companies and new technologies?**

    a. **Follow up: Can you explain to me the limits of BARDA's authority to work with companies developing non-therapeutic technologies to counter antibiotic and antimicrobial resistance?**

    b. **Follow up: Do you believe giving BARDA the flexibility to work with companies more broadly would be beneficial to BARDA as they work to achieve their mission to counter anti-biotic and antimicrobial resistance?**

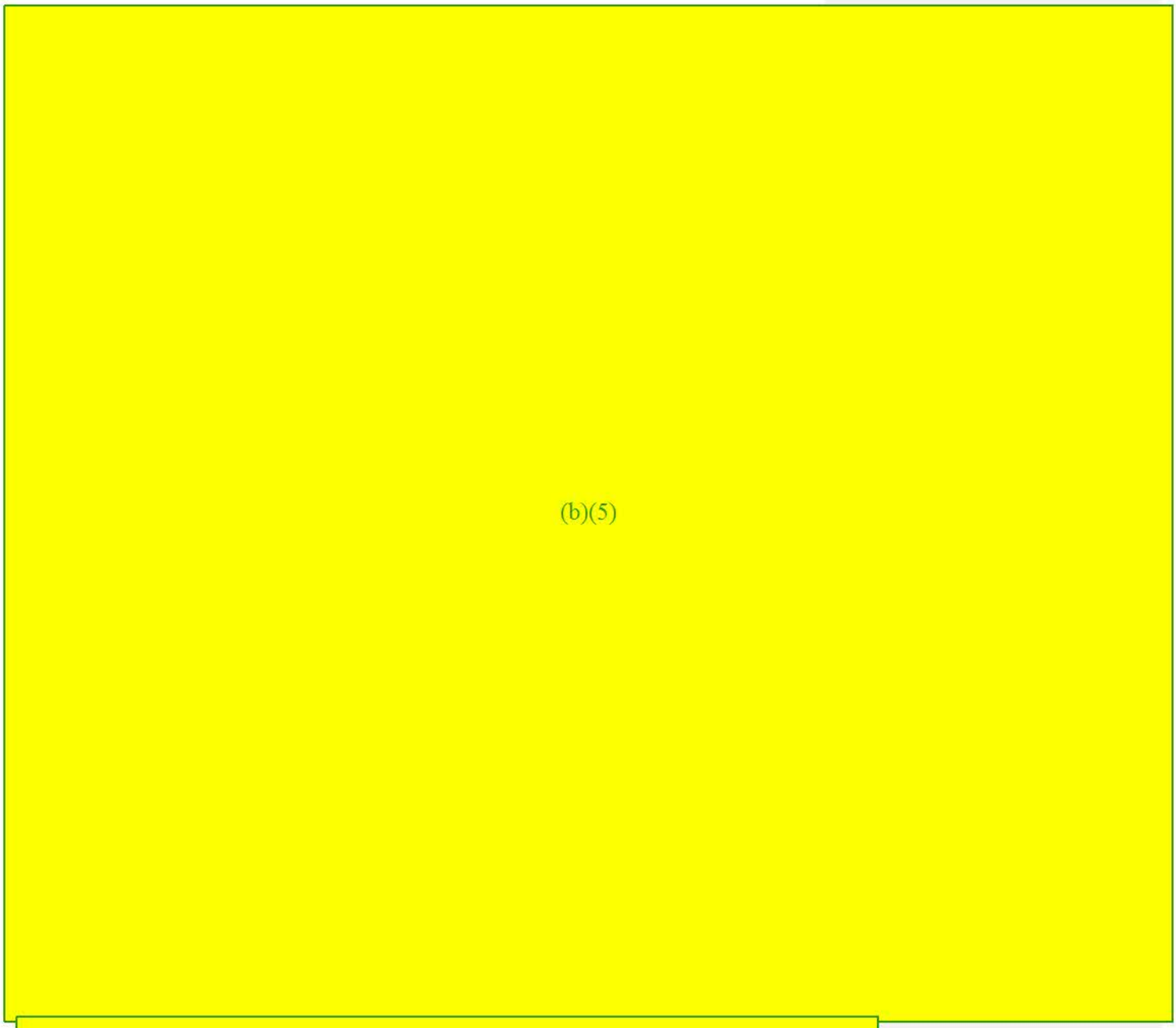
Rep. Carter:

1. **How can ASPR ensure that the transfer is not overly disruptive for state and local health departments?**

(b)(5)

(b)(5)

(b)(5)



(b)(5)

2. **This past year was a very serious flu season and we learned that the virus had not changed dramatically from the previous year. With a universal flu vaccine still years away, do you think that learning more about stopping the spread of infections in doctors' offices and hospitals would be a good step in reducing the impact of the flu and other serious communicable diseases?**

(b)(5)

(b)(5)

3. **The Ebola outbreak highlighted a successful public-private partnership between CDC and Emory University; all 4 patients that were treated in Emory's Serious Communicable Diseases Unit recovered from this highly contagious infectious disease. Building off this model partnership and the lessons learned by researchers and providers, would you be supportive of applying this knowledge to future pandemics that could affect thousands of Georgians like avian flu?**

(b)(5)

(b)(5)

4. **The Hospital Preparedness Program is an important tool for our regional health care system preparedness. Emory University has been a recipient of funding to explore innovated ways to increase hospital readiness during local or national emergencies. In partnership with GA Tech, the have developed new tools including using virtual reality to keep healthcare workers trained and up to date on best practices to help improve patient outcomes and provider**

safety. Do you believe this program has been helpful in getting out nation more prepared for the next epidemic?

(b)(5)

(b)(5)

(b)(5)

(b)(5)

Rep. Pallone:

The Strategic National Stockpile (SNS) is a key line of defense against natural and manmade threats. The SNS is not just a stockpile of medications, antidotes, and medical supplies, but also consists of logistical infrastructure capable of deploying products in the event of a public health emergency. The proposed bill, H.R. ___, the Pandemic All-Hazards Preparedness Reauthorization Act of 2018 would transfer the SNS to ASPR from the Centers for Disease Control (CDC), expand the role of ASPR in responding to public health emergencies and our national response. The transfer of the Strategic National Stockpile (SNS) from the Centers for Disease Control (CDC) and Prevention to the Assistant Secretary for Preparedness and Response (ASPR) raises a number of concerns about the stability and coordination of the SNS and ultimately, how the departmental changes could affect our national readiness and ability to respond to a public health emergency.

(b)(5)

1. **Please describe the CDC's past role in leading the SNS, the range and type of deployments and the types of products the CDC has delivered through the SNS program?**

(b)(5)

(b)(5)

(b)(5)

(b)(5)

2. **How does CDC assist state and local health departments with the "last mile" deployment of SNS items in the event of a public health emergency?**

(b)(5)

(b)(5)

3. **What training programs does the CDC sponsor are funded through the SNS program? Will the funding from SNS continue to be used to pay for training activities?**

(b)(5)

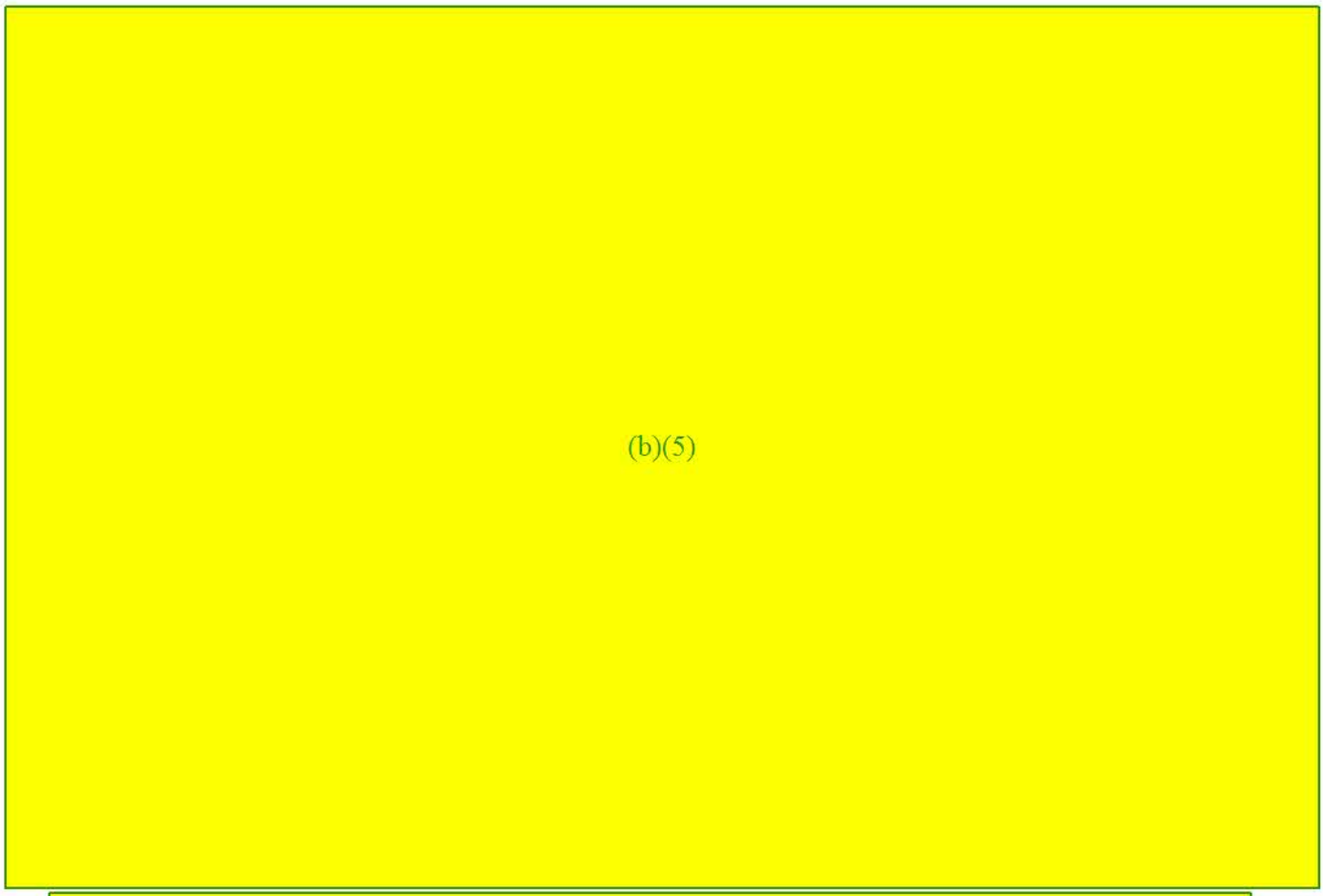
4. **The President's FY 2019 budget requested the transfer from CDC to ASPR.**

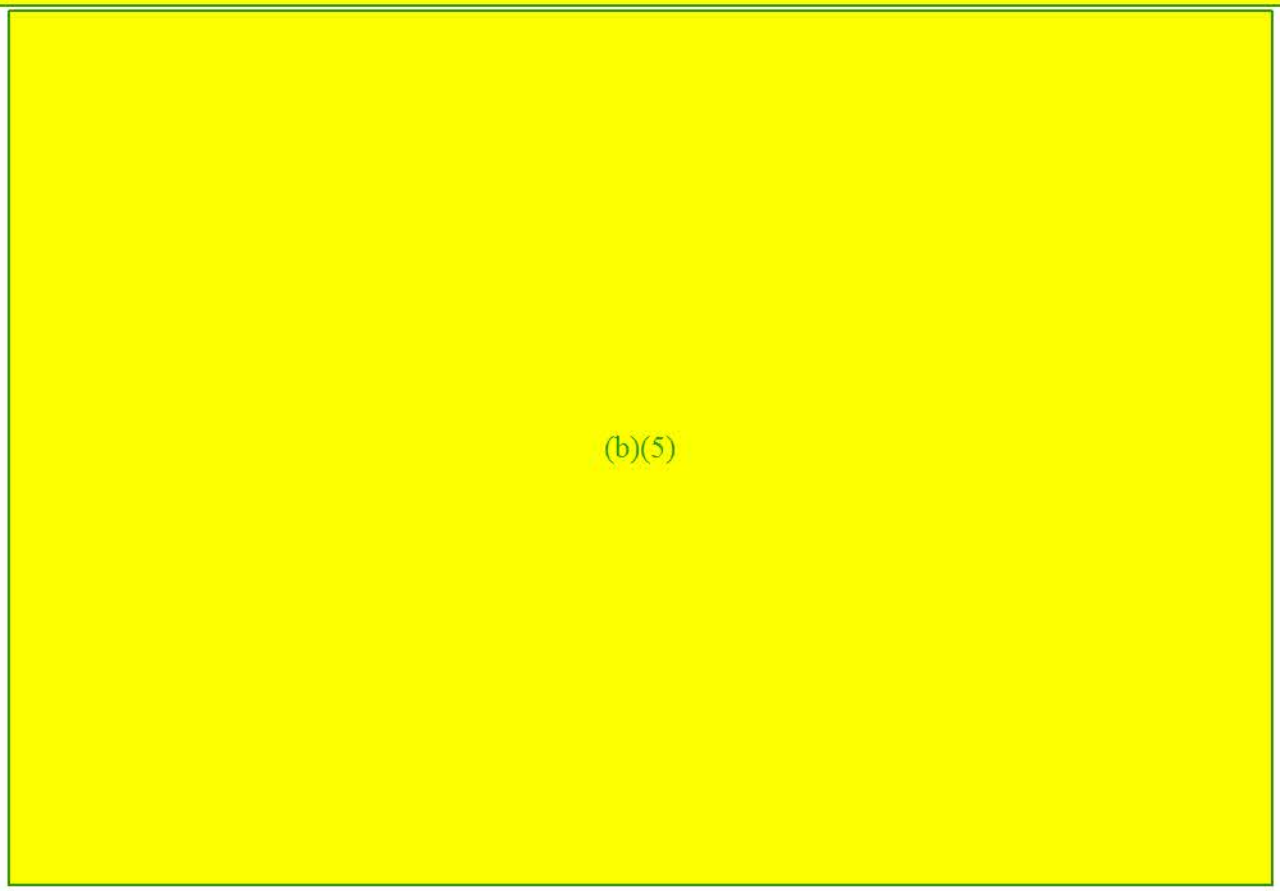
5. **What is the main motivation behind this transfer of the SNS?**

6. **What issues may be solved by this move and what challenges may be created by transferring the SNS from the CDC to ASPR?**

(b)(5)

7. **How will moving the SNS from CDC to ASPR affect programs that support the SNS and are run by CDC, such as the Public Health Emergency Preparedness (PHEP) awards, which support state and local capacity to receive, distribute and dispense medical countermeasures (MCMs)?**





(b)(5)

(b)(5)

8. **How does the CDC and ASPR currently coordinate?**

(b)(5)

9. **What plan does the CDC and ASPR have to ensure PHEP-supported health departments continue coordination after the transfer of the SNS?**

(b)(5)

(b)(5)

(b)(5)

10. How does the CDC currently coordinate with state and local health departments? How will this relationship with state and local health departments continue if the SNS is transferred to ASPR?

(b)(5)

(b)(5)

(b)(5)

11. Please describe how state and local public health departments were impacted by funding from the PHEP cooperative agreement being redirected for the Zika response?

(b)(5)

(b)(5)

12. In the opinion of CDC, could state and local health departments maintain operations and staffing if currently funding was cut or delayed?

(b)(5)

13. When funding cuts or delays occur, how does that impact the ability of state and local health departments to respond to public health emergencies?

(b)(5)

(b)(5)

From: CDC IMS JIC Lead
Sent: 7 Oct 2017 11:55:58 -0400
To: Alvey, Robert (CDC/OPHPR/DEO)
Cc: Michael, Gretchen (OS/ASPR/COO);Daniel, Katherine Lyon (CDC/OD/OADC);Kane, Elleen (OS/ASPR/COO);Hoskins, Sharon (K.D.) (CDC/OD/OADC);CDC IMS JIC Lead
Subject: Re: FEMA Roll-up Submission

Roger that.

Ibad Khan

JIC Leadership
2017 Hurricane Response
Centers for Disease Control and Prevention
CDC Joint Information Center
eocjiclead@cdc.gov

From: Alvey, Robert (CDC/OPHPR/DEO)
Sent: Saturday, October 7, 2017 11:49 AM
To: CDC IMS JIC Lead
Cc: Michael, Gretchen (OS/ASPR/COO); Daniel, Katherine Lyon (CDC/OD/OADC); Kane, Elleen (OS/ASPR/COO); Hoskins, Sharon (K.D.) (CDC/OD/OADC)
Subject: FEMA Roll-up Submission
Ibad,

Please review and submit the revised copy below for the FEMA roll-up today.

Thanks,

Bob

Repurposed pre-landfall guidance for Hurricane Nate.
Using social media, web and partners newsletter to deliver messages while we continue to track Nate.
IM and a response CDC Comms lead are in USVI today and tomorrow.
Working on printing and shipping to PR and USVI flyers on safe water, mold, threats associated with flood waters, food safety.
Working with USVI FEMA JIC, provided electronic versions to USVI FEMA for limited printing and distribution. This will be followed by revised printed copies next week.
Leptospirosis. Message was cleared and is being circulated via social media.
Hoping to identify list of businesses operating in PR, especially print shops

Continuing to search for two bilingual PIOs to support local officials as requested by FEMA.